Still Alive With Sir Clive!

ZXir QLive Alive!

The Timex/Sinclair NorthAmerican User Groups Newsletter

Volume 6 Number 4 Winter '96

Chairman Donald S. Lambert Auburn, IN

MEMORY MAP

ROUTINES

ADDRESS	
2	Information and Chairmen — Trea$ury Note$
3	*Input/Output* — by Abed Kahale
	RMG
	TS-2068 Joystick
	Voltage Regulator
	KeyTop Protector
	Disk Drive Repair.
8	From The Chairman's Disk — by Donald Lambert

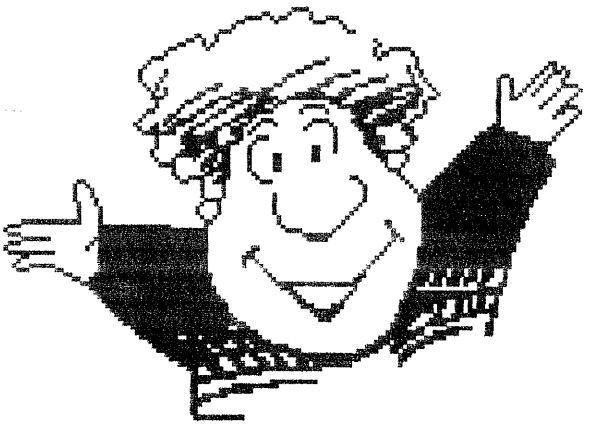
FILES

10	Meet Phillip Kwitkowski — Bob Swoger
10	How To Be Chic — Gil Parrish
11	QXL Ghosts — by Al Feng
13	Daisy Be Good IX — by David Lassov
14	Disk Drive Dress-Up — by Les Cottrell
15	Telecommunication à La TS-2068 — by David Lassov
16	SeekQL 2.09 Part 1 — By Al Feng
20	ZX-81 Video Display Part1 — by Wilt Rigter

SUBROUTINES

22	Unclassified Ads
26	QL Today
27	RMG — FWD Computing
30	1996 ZQA! Index

It Is Re-Up Time



To Renew Your Membership

T/SNUG Information

We wish to support the following platforms : ZX-80/81, TS-1000, Spectrum, TS-2068, Z88 and QL. If you have any questions about any of these fine Sinclairs, contact the:

Chairman

Chief Motivator
Donald S. Lambert (ISTUG)

Vice-Chairmen

Tape & JLO PD Library
D. G. Smith
415 Stone St.
Johnstown, PA 15906
814 535-6998

Z88 Library
Dave Bennett (HATSUG)
1275 Timber View Dr.
Mechanicsburg, PA 17055
717 732-4374

ZX-81 PD Tape Library
Ed Snow
2136 Churchill Downs Cir.
Orlando, FL 32825
407 380-5124

RMG Enterprises
Rod Gowen (CCATS)
14784 S. Quail Grove Cir.
Oregon City, OR 97045
503 655-7484 FAX 503 655-4116

TS-2068
Rod Humphreys (VSUG)
10984 Collins Pl.
Delta, BC V4C 7E6, Canada
604 583-2819

QL PD Library
John Donaldson (CATUG)
835 Foxwood Cir.
Geneva, IL 60134-1631
708 232-6147

AERCO & Z80 Emulator
Keith Watson
41634 Amberly Dr.
Mt. Clemens, MI 48038

BBS ---===GATOR===---
Bob Swoger (CATUG)
613 Parkside Cir.
Streamwood, IL 60107-1647
630 837-7957 Work 847 576-8068

Any of the above can also be reached by E-Mail through the **MMCC BBS 847 632-5558**

ZXir QLive ALive!

Is the newsletter of T/SNUG, the Timex/Sinclair North American User Groups, providing news and software support to the T/S community in a VOLUME of four newsletters per year; beginning with the Spring (March) issue.

T/SNUG's main goal is to preserve and encourage the use of Sinclair computers by providing an open forum for the exchange of knowledge, building and maintaining of software libraries. Providing vendors, repair service and members with free ad space.

It is the user groups and individual subscribers, rather than the vendors, that provide the pecuniary support for this newsletter. Vendors and developers receive this newsletter free of charge, though contribution from vendors and user groups is gratefully accepted. Please support our vendors and service providers whenever possible.

If you have a problem or you have solved a problem, please share it with the rest of us. No problem will be considered unimportant.

Editor/Treasurer
LarKen PD Library

You can keep T/SNUG alive by an annual contribution of $12 for one VOLUME made payable to Abed Kahale. Send check to:-

ABED KAHALE
3343 S FLAT ROCK CT
SIERRA VISTA AZ 85635-6874
520 378-3424

Back copies are available for $0.75 each postpaid.

Trea$ury Note$

As of December 9, 1996, we have a balance of $1009.37

Article Contributions

Send in your articles by tape or disk and your inputs to:—

DONALD LAMBERT
1301 KIBLINGER PL
AUBURN IN 46706-3010
Phone 219 925-1372

By hardcopy or modem (300-14.4) to:
Abed Kahale
E-mail: 103457.2440@compuserve.com

GATOR's
TWISTED PAIR

To better inform the Sinclair Community, four 24-hour a day BBSs are now provided to serve you. You are encouraged to exchange mail and use the files sections of these boards. Bulletins and ads are available to all.

Q-Box BBS **810 254-9878**
Utica, Michigan
SOL BBS **520 882-0388**
Tucson, Arizona
MMCC BBS **847 632-5558**
Arlington Heights, Illinois

If you know the Internet E-Mail address of a Sinclair user, but do not have access to Internet, simply address your E-Mail to **Internet Email** on the 24-hour **MMCC BBS** and include the name and E-Mail address of the user you wish to reach. Log-in as yourself, then check the MMCC BBS from time to time if you expect a reply.

We encourage you to exchange mail and contribute to the UPLOAD section. Call and ***register*** using your first, last name and phone number along with a password you won't forget. ***Write It Down!*** Do not try to do anything else at this time.

When you call-in the next time, you will have Level 5 security and be able to enjoy full user privileges. The BBS has smaller sections called conferences. Select "J " for "Join a Conference". Select "TIMEX" to get into the Sinclair Section. The mail you then read will only be from other T/S users. Use extension .ART for articles, .ADS for ads and .NWS for news when UPLOADing.

For help, contact the SYSOP, Bob Swoger, by leaving a message, mail, E-Mail or phone.

Input/Output

by Abed Kahale

Ouch!

The last Autumn ZQA! should have been

Volume 6 Number 3

R M G

Mr. Kahale

I just wanted to write to set aside any rumors you may hear that RMG Enterprises is "gone", "out of business", or "dead"

RMG is alive and well! There have been some changes recently, but none that put us out of the TS business. As you know, my wife and chief helper died in July, leaving me with virtually no one to help me on a regular basis. My daughters help as they can and I manage to fill orders and answer my correspondence, a bit late maybe, but eventually they all get done. I have put my entire remaining stock of TS items up for sale as a lump sale. I will let it all go for the cost of shipping and handling. At wholesale (what I paid for it) my remaining stock has a value of over $10,000. I am willing to let it all go for $1,000! This would be a great buy for someone who can get on the Internet (as I am unable to) and let it be known that he/she has the items for sale.

I will say, that, if I have not sold it by 12/31/97, it will all be disposed of one way or the other.

Even when I am out of the business of selling TS computer items, I will still make myself available to help any TSer who might happen to need it. If I cannot help myself, I will refer people to the best person I know of for help. I still have a lot of accumulated knowledge of TS computer equipment as well as of those who can be of help to others around the world. I realize that there is now a lot of help available on the Internet and I cannot help anyone there, but for those of you who, like me, do not use, or cannot make use of the Internet, RMG will still be here.

Of course, RMG will still be in the computer consulting business for PC users.

I would like to ask you to remove all of the ads for RMG that you have been running and just put one in, that says:

RMG Enterprises Is Still Alive!

If you would like a complete listing of all ts items we have for sale, please send a large (6X9) sase with at least $.80 postage on it. You will receive more than 20 pages of listings. For questions or comments, feel free to call or write.

RMG ENTERPRISES
14784 SOUTH QUAIL GROVE CIRCLE
OREGON CITY, OR 97045-8843
503-655-7484

RMG will no longer publish a monthly newsletter/flyer due to the low subscriber level (only 9 people in November) and the fact that I am having more trouble with my vision and it has become a real struggle to get it done each month. After 10 years, we had to "hang-it-up". We want to thank all of those who have supported us and the world of TS over the years and hope to see support continue as long as possible. We will do our best to do the same.

Thank you for your great work — keep it up with ZQA!

Sincerely,

Rod Gowen

I used to be a very dedicated Timex Sinclair 2068 user until my Interface 1 broke. Do you have an extra or unwanted Interface 1 that you want to sell or do you know anybody who can repair one?
Any answers will be sincerely appreciated.

Interface 1

Ata Tursucu
16359 REDINGTON DR.
REDINGTON BEACH, FL 33708
813 393 4024

Now and again I see a complementary copy of ZXir QLive Alive in my mailbox, and I thank you for letting me have them, but the truth is I have moved on to other fields. I still have the QL hooked up, but it does not get so much use as it once did. .

Once Sink-Link was gone, I lost a lot of enthusiasm, and the Super Hermes run around of last year, was the last straw for me. I decided then, to move on.

Now that Update and others are gone, I guess that ZQA is probably the oldest and largest Sinclair publication left in North America, and with the exception of QUANTA, probably the world! An interesting concept.

Although 1 have moved on, I still have a lot of respect for the QL, that is something I

don't think I will ever lose. In using the PC, I often

think there are many things the QL did better, and also much faster! As I said, I still use the QL. There is a lot to be said for pounding the keys instead of chasing a mouse all over the table!

Again, many thanks for past considerations. GOOD LUCK to the FUTURE.

Hugh Howie
Burlington, ON, Canada.

With the arrival of the last issue of UPDATE, I realized I was probably overdue with my ZXir QLive subscription. The last issue I received was Vol.6 No.2. I will enclose a check.

In the final UPDATE!, Frank mentions that someone was accessing the Internet with a 2068. I am intrigued with the idea and would like to find out more about how it was done

I have been inactive on my 2068 lately, but I hope to improve and I will try to tend some articles soon.
Keep up the good work and above all keep Sinclairing!

Les Cottrell
Cocoa, FL

Got a report on the BBS that the Miami **SCC BBS**, sysop Jose Moreno, went down forever for lack of interest.

---==GATOR==---

Also, just like when the newsletters sent out keyboard overlays for various application usage, I would like to see the MultiDraw Manual included in the back final pages of ZQA! able to be separated from ZQA easily.

Perhaps a very short MultiDraw article could be written to justify the manuals presence. I think I saw a review in one of the old news letters of RAMTOP or Sink-Link. The usual last pages of ZQA! should be the ADS but the manual should follow the ads. I feel that when filing away a ZQA that the ADS section could be removed to save filing space as the ads are of no use after a short space of time. Of course, the manual would be removed and filed away with other application manuals. The missing pages from Barry Carters manual would be handled in a similar manner in a future ZQA! I have found missing poke addresses since I sent you the Multidraw manual. I also got the picture on the front to print out perfectly by using the Apple Laserwriter print driver on the HP Laserwriter instead of HP's driver software!.

Send E-mail to Internet Addresses (users)

When people send Email to others using the Club BBS, at 847 632-5558, they now have to address it to "Internet Email" instead of "Gator Sinclair", please make this change in ZQA! in the BBS section.

Log-in as yourself in the usual way. When you want to send mail to an Internet user, address the mail to Internet Email instead of the Joe Schwartz or however. Include Joe Schwartz's Email address in the first line of text or better yet, in the Subject line.

---==GATOR==---
CENG108@email.mot.com

Sinclair West Coast Fest ?

Now that I'm on the west coast, I've been talking with Jim Hunkins (who has been here a while) about having a west coast Sinclair get-together. The problem is that I don't know too many west coast Sinclair types. I was wondering if I could get a list of ZQA! readers that live on the west coast.

I could then contact them and see if they are willing to have a gathering. Just Wondering,

Tim Swenson
swensont@projtech.com

Thanks, for helping put the finishing touches on this topic.

Last Sunday evening, Bob Schimke downloaded GG.B0 from SOL BBS. So, I tried it out Monday morning, and it usually wouldn't work for me.

I researched it out and learned, that the joystick would not function with LKDOS hooked up, *properly*. Went to Larry's manual on LKDOS and found IN 31, to be the data port for joystick.

Well, what he means is, that the only joystick port for use with LKDOS is the one on the LKDOS board, beneath the NMI button. And, the port is addressed by IN 31.

Haven't yet figured out how to read the "fire" button, but the directional information can be read out from the one-line programs 10, 20, and 30 :

```
  10 LET s=STICK(1,1): PRINT AT 11,16;
s: GOTO 10
  20 LET s=STICK(1,2): PRINT AT 11,16;
s: GOTO 20
  30 LET s=IN 31: PRINT AT 11,16; s:
GOTO 30
```

Use line 10, when testing the joystick port on the left side of the 2068; the port on the right-hand side is tested by line 20; and, line 30 reveals the directional numbers, coming out of the joystick port
on the LKDOS system board.

Here is the finished version of the program by Karen Aker, called "Garbage Gobbler."

RUN your version of it, in order to exercise, SOUND, MOTION, and COLOR on the 2068! 0

```
   1 REM GG.B1 (LarKen version)
   5 LET g=0
  10 FOR a=USR "a" TO USR "a"+7: READ
d: POKE a,d: NEXT a
  15 DATA 60,126,239,252,240,249,127,60
  20 BORDER 1: PAPER 7: CLS
  25 FOR i=1 TO 8: PRINT INK INT
(RND*7); AT INT (RND*22),
INT (RND*32);"*": NEXT i
  30 LET r=21: LET c=0: INK 0
  35 BEEP 0.05,-50: PRINT AT r,c;"A":
```

```
LET r0=r: LET c0=c:
LET s=IN 31: IF s THEN  GO TO 55
  40 GO TO 35
  55 LET r=r+(s=6)+(s=4)+(s=5)-(s=10)-
(s=8)-(s=9)
  60 LET c=c+(s=9)+(s=1)+(s=5)-(s=10)-
(s=2)-(s=6)
  65 LET r=r+(r<0)-(21<r)
  70 LET c=c+(c<0)-(31<c)
  75 PRINT AT r0,c0;" "
  80 IF SCREEN$ (r,c)="*" THEN GO SUB
100
  85 GO TO 35
 100 PRINT AT r,c;"A"
 105 SOUND
0,200;1,2;6,31;7,14;8,16;9,16;10,16;12,
100;13,2
 110 PAUSE 30: SOUND 7,63
 115 LET g=g+1: IF g<8 THEN GO TO 35
 200 PAPER 1: INK 7: CLS
 205 FOR n=1 TO 27: READ p,d
 210 LET r=INT (RND*22): LET c=INT
(RND*32)
 215 PRINT AT r,c;"A": BEEP p,d
 220 PRINT AT r,c;" ": NEXT n
 225 DATA
0.25,0,0.25,0,0.25,2,0.25,4,0.25,0,0.25
,4,0.5,2
 230 DATA
0.25,0,0.25,0,0.25,2,0.25,4,0.5,0,0.5,
-1
 235 DATA
0.25,0,0.25,0,0.25,2,0.25,4,0.25,5
 240 DATA 0.25,4,0.25,2,0.25,0,0.25,-
1,0.25,-5,0.25,-3,0.25,-1,0.5,0,0.25,0
9997 STOP
9998 CLS: BEEP 0.02,20: PRINT
#RND;"Data Disc ? ";: PAUSE 0: LET
d=CODE INKEY-CODE "0": PRINT #RND;d:
RANDOMIZE USR 100: GO TO d: RANDOMIZE
USR 100: CAT "", BEEP 0.2,24: INPUT
"Entire File Name ? "; LINE z$:
RANDOMIZE USR 100: OPEN #2,z$( TO LEN
z$-2)+"CX"+" OUT ": LIST : RANDOMIZE
USR 100: CLOSE #2: STOP : REM
```

MERGE in order to generate TEXT FILE (.CX)

The A in lines 35, 100, and 215 will all be replaced by the UDG, generated by lines 10 and 15. Of course, the A must be typed in with the cursor, changed to G, i.e., in graphics mode for the A, only! And, the lines 9997 and 9998 are not part of the game, but were MERGEd only to convert a BASIC listing (.B1) into a text file (.CX)... .

David Lassov

emanon@azstarnet.com

When I submit FILES, to you for printing in ZQA, or to some BBS, say QBOX, at LD, then I compose my letters, or essays, or whatever, AHEAD OF TIME. Isn't that the cool way to do it ?? *(The only way. Editor)*

Indeed, when I attempt file transfer to Bob Swoger at his BBS at work, or to you at compuserve, the transfer is halted inexplicably after only a few lines, whenever I use the 2068. So, to save hassle, I transfer the files here to the Apple and upload them from there, with no problem. Wonder what is the little problem?

The 2068 and its 1200 baud modeming constiitute a rather sensitive setup. Even when I call azstarnet here, the modems often reject me, and I have to redial. Notice, that their system has me down for 9600 BAUD! So, maybe they're using 9600 to match up with 1200! But, no problem with the apple at 2400 baud!

David Lassov

Tucson, AZ

QL Hacker's Journal

New mail address :

Timothy Swenson

38725 LEXINGTON ST. 230

FREMONT, CA 94536

(510) 790-7034

As for the QHJ, I've had little time to work on it. I hope to start doing something with the QL fairly soon. If you have any programming ideas I could sure use some. BTW, my QL is hobbled together. I had a partial shipment of household goods and the QL power supply and disk drives did not make it in the shipment. I had to borrow a QL powersupply, disk drive, and disk power supply. I'm only capable of HD disks, not ED disks. (and my mouse is in storage too :-( )

Tim Swenson

swensont@projtech.com

Sinclair PA Fest ?

Bill Cable called Jon Kaczor about a possible Bedford PA Sinclair fest which would include TS2068 Spectrum and TS1000/ZX81. Jon called to ask what the rest of the US thought of the idea. I guess we could ask in the next ZQA! Jon's phone number is 216-398-6480 for your records.

--==GATOR==--

Bob,

Just a quick note so that you will have my email address.

I did send an email to Greg DuPuy and asked him to find his customized software for the digitizer board and drop it off. When I get a copy I will forward it on to you. Will Larken 40 track, double sided work?

Jon Kaczor

75363.1127@CompuServe.com

Dear QL user,

I firstly must apolog ise for last months MESS with the Catalogue update. For some strange reason WINCIM would accept the message but it would not upload the zip file!

For that reason I have decided NOT to send the catalogue as a zip but to inform you that the S.J.P.D.

SOFTWare WWW page and updated catalogue has been sent to Di-Ren and should be available from http://www.diren. co.uk/sjpd/homepage as of Sat. 25th October 1996.

Happy QLing!

Steve Johnson.
S.J.P.D. SOFTWare.

Go ahead and change my address in any QHJ or QHJ Freeware items that are in ZQA!. I still have the QHJ Freeware disks with me so I can send people stuff. I hope to have something in the form of a QHJ soon. You might also want to mention that that I've moved and this has caused the delay in any new QHJ's.

Tim Swenson
Fremont, CA 94536

I am starting to study electronics and have gotten a lot of information together and will start to use a breadboard. I have the HeathKit ET3600 which is the analog trainer and the ET3200 which is the digital trainer that I got at the HamFests, without docs. From my letter in the July issue of poplar Electronics I have gotten a lot of information about the trainers and have the manual and the digital course. I think I will get the lab manual from HeathKit to learn more.

About the electronics for reducing a voltage for use for powering the Z88 and the battery powered disk drive I will have to get some sketches made. Although I do think on second thoughts to using a 7805 with a resistor on the

up the voltage from 5 VDC to 6.0 or 7.0
a better route. Either way I will have to use a
omething to mount it all in. My thoughts
urplus T/S 1000 power supply and most are
mp and I need according to the Z88 manual
6 at 500 ma. The disk drive requires while
/ and it needs 6 volts so that means about
l use a trace over 6 VDC to be sure that the
e than the 6 volts from internal batteries.
larm light comes on at 4.1 volts and power
ts.

lked to Frank Davis about two weeks ago Paul had not gotten back into the house yet from the fire after last Christmas. So he still has all his T/S stuff stored.

I don't know if you got UPDATE or not but there was a serial port for the T/S 2068 article in it and I could not make sense out of how to do the hardware. Now if someone could either make one for me or present it in a form I understood I would be happy. It is by Wilf Rigter and he does not give a surface mail address. His address as given is rigter@cafe.net (wilf rigter). I would appreciate any help that I get on this. It seems an ideal way to get going with a Z88 to T/S 2068 upload and download.

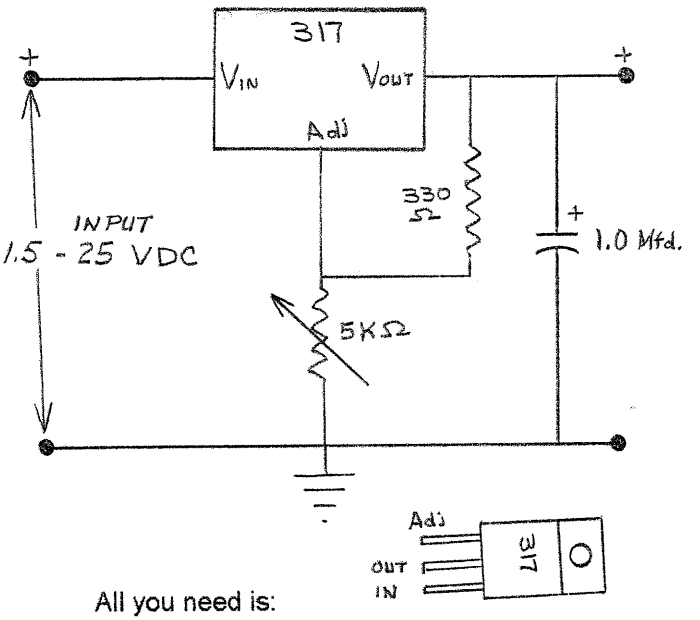
I finally got in contact with Mike Fink. I had used an old address and the letter came back and then I found a more recent address and he responded with a two phone calls. *(ZQA! was returned too, can you please send me his new address, Editor)* As a result I have a copy of his book "Z88 Manual A. B. other" but 67 pages of text, but then how valuable that information is another thing. I cannot really evaluate the book till I get my Z88 back from Frank Davis to get version 4 ROM and 512K of internal memory installed. Then I will have to spend time with it to see if I can get it to working. And I will need a serial port for the T/S 2068 to be able to upload and down load data from the Z88 to the T/S 2068. Just might be the springboard to get me to getting on-line. A $40 modem for the Z88 is all I would need to get started. With the serial port on the T/S 2068 that isn't needed.

Donald S. Lambert
Auburn, IN

The best voltage regulator for your applications is a variable voltage regulator - the 317 or LM317 ... whatever, as long as it has number 317. The letters indicate the manufacturer of the regulator.

It can handle all the current that you need from 1 ma. to 1.5 AMPs dependent on the size of heat sink you mount it on, the bigger the more current or vice versa.

You can set the voltage anywhere from 1.5 to 25 volts. You should be able to find it at your local friendly electronics dealer or Radio Shack.



All you need is:

- DC voltage higher than what you plan on regulating. Let's say 9 VDC. and you are looking for 6.5V. The TS-1000 power supply is just right for this application.
- 120 to 330Ω resistor ½ watt.
- 3 to 5K potentiometer.
- An electrolytic capacitor anywhere from 1 to 5 Mfd., 25 to 100 volts.
- Heat-sink. You need mass, either thin and large like the aluminum chassis (case), or thick and small. I used to use 3/16 thick copper sheet at work and cut it to about 2X3 inch when I had none at hand. But aluminum is fine too. The regulator must be in intimate contact with the heat-sink with heat-sink grease in between. Regulators do run hot about 140°F.

The 317 regulator, of course. TO-220 case.

Set the potentiometer to 6.5 volts with an electrical load connected to the output (the end that will go to the Z88). You can use a 6 V. flash light bulb or a small Christmas tree light bulb as a load to set the regulator to 6.5 volts.

Do not connect it to the Z88 before setting the voltage to 6.5 volts. *Editor*

This is from Reader's Digest, August 1996.

"In 1877, according to one historical account, a would-be prospector named Ed Schiefflin decided to head west and seek his fortune. His route would take him through Apache country, friends warned him that all he would find would be his tombstone. Ed got to Arizona and found silver. Remembering his friends' dire predictions, he named his strike Tombstone. More prospectors followed, and the town of Tombstone was born."

Donald S. Lambert
Auburn, IN

And Heeeeeere's Ed in person:

TOMBSTONE FOUNDER: Miner Ed Schieffelin discovered and named

Dear Jochen,

I received a letter from Al Feng of the USA today and he says we can advertise in T/SNUG, which I thinik stands for Timex/Sinclair NorthAmerican User Groups, free of charge. He suggests we send an ad.

Stuart Honeyball

Dear Mr. Kahale

Stuart Honeyball from Miracle Systems suggests in his FAX that I send you some information about QL Today, which is enclosed.

Thank you very much in advance. Best regards.

Joch Merz

Key Top Protector

by Phillip Kwitkowski

Our TS2068 users have long been concerned about the loss of the painted on key cap markings do to normal wear. We have tried carefully painting clear coatings on the keys using things like Krylon but in time that either wears off or collects finger dirt making the keys again unreadable.

Bob Swoger visited my home one day last winter and observing my TS2068, he noticed that my keys still looked like new! As he got closer, he found that he was looking at these keys through a thin, almost invisible film! "What's this?" he asked. "I got the idea from you. You know how you protect your home TV remote by wrapping it in a plastic sandwich bag? Well, I taped Saran Wrap over the top of my keyboard. You can hardly see it because the film is so clear and you can hardly feel it. Try it', I said.

He gave it a try. I had taped the Saran Wrap over the keyboard just lose enough to not feel its presence. The film started from under the cover of the game/dock port where it was fastened with two small pieces of Scotch tape. Unless you opened the door, you couldn't see the tape. In had laid a pencil vertically between the film and the keys and taped the left edge of the film under the TS2068 using several small pieces of tape. The ON/OFF switch was left uncovered of the film was relaxed making film limp over the keys. This is what made the film transparent to feel.

This whole procedure took far less time than painting clear Krylon coating over the keys and if the thing ever starts looking ugly, you can replace it again real easy!

Bob tried it on Bobby Muth's machine and his own at the next club meeting. Three minutes to find the scissors, pencil, Scotch tape and Reynolds version of Saran Wrap. Seven minutes to install the film and re-install the TS2068 back into the setup. Two minutes to put the items away again"

DISK DRIVE Repair

by the Editor

A member ordered copies of all the LarKen TTSUC library. No sweat, use COPY 3 from the D.U.S. by Christian Boisvert, insert the original disk in one drive and the copy disk in the other drive and copy one disk after another. But, one of the drives (the one with lots of mileage on it.) decided not to work "CRC error". If I don't fix it then I will have to insert and remove the original disk, then insert the copy disk in the same drive for every five

blocks and so on and on .....

The first thing I did was to make sure that the board edge connectors were OK, in fact I replaced one of them. Since I did not suspect that it was an circuit problem, I removed the disk drive from the case. The first thing was to check for slippage of the disk in the hubs that clamp on the center of the disk. Both the aluminum and the plastic hubs were very smooth and shiny **from wear** where they contact the center disk ring that surrounds the hole. I carefully roughened the aluminum hub with a file taking care not to let the filings get into the mechanism and blew out whatever might have fallen. Then I lubricated the two round rails that guide the head as the head travels back and forth as driven by the stepper motor, then oiled other moving parts bearing points sparingly. That did the trick and I was able to copy quite a few disks until I got to one particular disk that did not work, "CRC error" again.

The only thing that was left is the head alignment. I tried various disks but not the ones I FORMATted on this drive. Some worked some did not. I looked for head adjustment, there was none that I could find. Brute force was the last resort; I loosened the screws that hold the stainless steel leaf at the head and moved the head in one direction, the other end of the leaf goes to the stepper motor. I tightened the screws and tried the drive. It worked, I was back in business. Otherwise, I would have had to move the leaf in the other direction.

Sorry to be so long, just back in the USA, changing ISPs and will try to get the WIDJUP disks to you. I need to borrow a TS2068 to dupe. The New email address as follows:

FWD COMPUTING
P.O. Box 17
Mexico, IN46958 USA
fWdavis@hotmail.com

At the meeting this past week end, Nazir anounced that he now has a working Hard Drive on his QL. This with the help of Frank Davis. Nazir plans to put the hard drive into the right side of his QL - under the hood as it were.

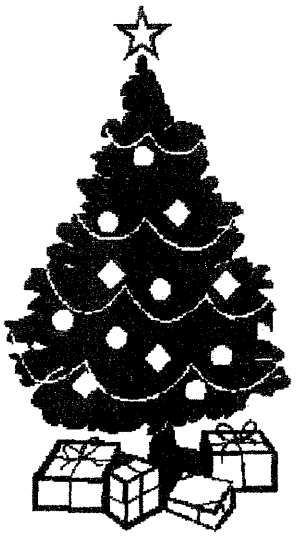
The pictures of you and Jan shown us by Donaldson seem to indicate you folks found the fountain of youth by making the move! ---===GATOR===---

FROM THE CHAIRMAN'S DISK

Donald Lambert

Here it is time for me to express myself yet another time. What could possibly be of interest to the reader's?

I was hoping to give some information on the Z88 that I sent in to Frank Davis the middle of October for an upgraded ROM (Version 4 needed for the 512K RAM) and for a 512K RAM. When I called November 9th he had several still ahead of me. Seems that there were about 180 on hand to be worked on when mine arrived. At about 2 hours per unit that is 360 hours, more or less, and since Frank is a part timer on the Z88, that doesn't leave him much time to work on the units. But I finally got in touch with Mike Fink and he has written another book on the Z88. I can't review it till I get mine back, I did learn from Mike that the highest safe voltage to use for external power is 9 VDC. I would prefer it to be down around 7 VDC. He has developed a carrier to wear that will hold it at the proper angle and place to allow you to stand up and use it.



I have been forced to try to find a checkbook program that I like, I did find one that I liked (I wanted to be able to enter any check number and also the payee in addition to being able to enter the checks and deposits in the order they appear on the checkbook register) I tried to use it but the final balance as against a calculator was not the same. Then I found that the program did screwy things if you had a 0 between the decimal point and the final digit. For instance if you ENTERed $14.04 it would come out in the check listing as $14.04 but when the computer went into the back room to figure the balance it used $14.40. The bean counters used some sort of strange arithmetic. The program is the T/S2069 Checkbook Manager sold by Timex. Anybody got a copy that doesn't do that and is right? After converting the program to disk it doesn't work right and looking at the listing I don't see at the moment where the problem likely is. All I would need is the LISTing of the program to enable me to compare the two. To get a LISTing it will break at the menu. I can get the program to work if I ENTER the dollar amounts as $1404 which means to leave off the decimal point. Or I could use Bob Swoger's checkbook program which I have but it does not allow one to enter the payee nor does it allow me to save the data (or I don't think it does), there are no instructions that I can remember seeing.

I went to the Ft.Wayne HamFest and I walked all the tables. They listed 1100 and there were some empties and some dealers had many tables. I went with a want list of wanted stuff but not much. I wanted a power strip, a 9 pin AB box a 9 pin cable and some ICs. I got those items they costed less than ordering.

The power strip was required since the one I use on this computer simply died. It was on the day before the HamFest with everything running and suddenly all came to a halt as the switch lost contact. I have since found that another switch has bit the trail on a

power strip, I will have to open them up and try to find a replacement switch that will fit in or use a different type of switch if I can find one to fit.

I needed the 9 pin AB box to use on the Z88 and of course the 9 pin cable to connect it up. If and when I get it back. Seems I do a lot of waiting for stuff. I waited from November of 1988 till sometime in January of 1989 for my LarKen disk interface. And then another month for a disk drive to operate on it.

At the Ft.Wayne HamFest I saw two T/S computers. The first I saw was a 1500 that was in a big attaché type case with tape recorder and all cables and such. It was a course in business but I don't know what it covered. The course material was there too. The entire deal was for $20. The original owner was the seller and since he completed the course, it took up space in his closet. I left a card with my name and address as a source of T/S information.

The other T/S computer was a T/S1000 that was sitting there with the keyboard (top) raised up and the price was $2.00. I would not go into the value of that I suspect junk. I asked about it and got no history on it, I carefully looked hoping to find a Z88 at flea market price but saw none, I did see a Laser PC3 for $45.00 which is no bargain. I have a Laser PC3 and I don't need another.

If I didn't have a surplus of computer disks I would have been able to pick up some used 5.25 DSDD disks 25/$1.00 which would be a bargain. But one dealer had used ones for a buck each for used DSDD but these were all orange color so he must be selling the color not the disks.

Talk about child labor. At one booth two boys, ages I think 6 and 8. were dismantling old IBM types and taking out the disk drives. One of the drives they took out was a Tandon TM100-2A which is a full height double sided double density 5.25 drive. In other words a 400K 40 track drive. They were going at it quite expertly.

I did stop and listen to an argument about software and hardware compatibility. Two men, one the booth man and another man were arguing with what looked like a five or six year old with studious type glasses. The boy was looking for a specific motherboard for a spare computer. He had all the hardware except the proper motherboard which was now obsolete. He was wanting the board so that he could use it to control all the hard drives so that the computer would be networked for that purpose from the other two that he would use, both of which were set up for a specific task. I looked and he had three or four pens in his little shirt pocket and a small notebook in his jacket pocket. **Move over Bill Gates** - here comes your replacement. I did not ask who he was or if he was a midget, at least he looked like a child and sort of acted like one.

After that heady thought I went to the food bar and got a box lunch, **HEY! Dayton ComputerFest take a look at this !!** $3.50 and you got a Kaiser bun turkey sandwich, a bag of potato chips, a container of a pasta salad, two containers of a fruit drink, a fruit cup, a piece of brownie or cake, a spoon/fork napkin and a straw. And you don't wait for the server to think what to do next. They go get the box out of the cold keeper and here it is $3.50 including tax, I figured that it would be one of those teaser lunches. But as soon as I picked it up I knew that it was worth the money.

One way you can tell how the computer technology is progressing is by what appears in the used markets. When you see a box marked $5 or $10 for contents or see a box with various things in it you know that is really from the past and is really obsolete. I saw some IBM with full height drives, motherboards and power supplies for $10 or make offer. With a warning from my wife not to bring anything back I did not even inquire what model they were.

Rod Gowen of RMG mailed back the left over stamped envelopes that I had mailed in since he is not going to mail out any more special sheets. I am sorry that he has to call it quits but if you can't see you can't continue a business without someone to help.

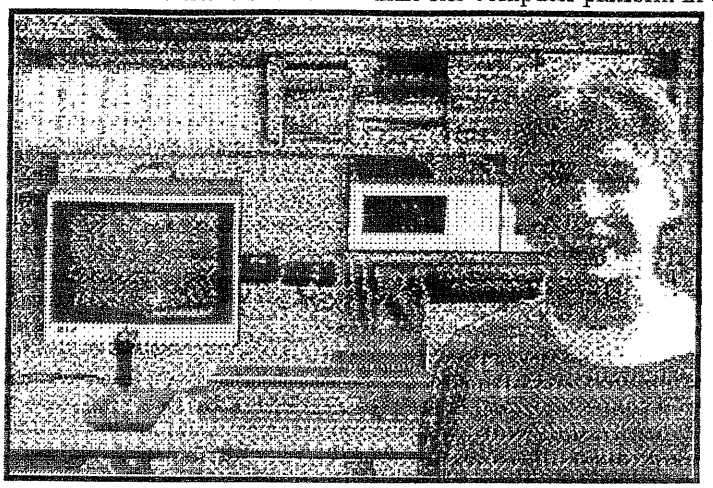
My interest in HeathKit stuff is still there. I saw a training module that predated my two which is one for analog circuits and one for digital circuits. *Of course no documents.* At another place I saw the microprocessor training module with a lot of chips plugged in for $20. Again no documentation. I was strongly tempted. If it had been for Z80 CPU I would have really been tempted. But HeathKit never did have anything for the Z80 that I knew of. I am about to get back into relearning electronics. Sort of hard when they have stuff that was not in existence when I took a course back in 1943/1944. I see in the HeathKit catalog that just the experiment books are available so I think I will order some and get the relearning going faster.

What we need is more articles. I will accept them in any form. While I don't have anything but a TS-2068 with the AERCO, the LarKen and the Oliger disk interfaces (5.25 40 and 80 track and 3.5 drives) and a Z88 (when it gets back) with an XOB disk drive I can also use a cassette interface (I use mine occasionally), I am willing to type in from hard copy and I have typed in from handwritten notes. In the later case I do like to mail what I've typed back to the author for proof reading, sometimes handwriting isn't always legible. Worst comes to worst and I will use reprints from old newsletters. There is a wealth of material there. If you have questions or suggestions send them in. There are three of us, but just one of us is in the work force (Bob Swoger) and he is really stretched thin with all he does. So send in your material to Don Lambert or Abed Kahale or Bob Swoger. 0/0

Meet Phillip Kwitkowski

by Bob Swoger CATUG

The 1970's was the time that many people in American businesses found themselves using computers in the work place. It was at that time that Pete Kwitkowski, Phillip's dad, taught me BASIC on a Hewlett Packard HP9830. In those days we read magazines like Popular Electronics that showed how we could have computers at home for under $1000. The power those machines were capable of was poor compared to the HP9830 and for those prices, there was no real desire to have one of those machines at home.



By the end of the 1970's, many machines were on the scene that could be programmed in BASIC and cost less than $500. In 1980, not only was there the Radio Shack Color Computer, Commodore VIC 20, Texas Instrument TI-99, ATARI 800XL and Sinclair ZX80, there was now Phillip Kwitkowski.

At age 14, Phil kwitkowski had only a Macintosh portable in his home. Everyone in the family used it but only a little as there wasn't much software in it. No one in the family belonged to any computer clubs.

At that time Phillip came over to my home one day and saw me in front of my Sinclair TS2068 setup. When he returned home, he told his mother that he 'just had to have one'. Not long after, Dave Lebowitz of Park Forest, Illinois, a CATUG member, sent Phillip a TS2068. Phil bought a LarKen DSK400 interface from FWD Computing and Joan Kealy sent him a LarKen RAMDISK. Trips to both the Elgin CoCoFEST in Illinois and the Dayton ComputerFest allowed him to return home with four disk drives, a Magnavox color monitor, STAR graphics printer and a lot of software for himself and his long time friend and CATUG member Bobby Muth who now has his own TS2068 setup.

1996 is a very interesting period in personal computer history. It seems that some computer users require more than one computer platform in the home to accomplish all the family desires. Even in the work place I have to have a UNIX machine, a Macintosh and an IBM compatible machine in my *anti-productivity pod* (as Dilbert calls it) to do my job effectively. No one machine does it all/best. For a long time I felt that the Sinclair was the only machine one needed at home, but no longer do I advocate this. I have observed within our own club that most members own at least two different computer platforms.

The realization of this fact did not occur to me until I visited Phillip's home in late 1995. Phil has a desk that fills one wall in his room. On the right side is his TS2068 with its four disk drives, LarKen DSK400 and RAMDISK, modem, joy sticks, track ball and large printer. Next to it is his Macintosh setup with its modem and printer. On the left is a home brew 486 that seems to be in the shop more often than not. All this collected in less than three years! He truly seems to require all three to do all he wishes to do. He has commercial software he likes to run that requires all three machines. He has the ability to move word processor and picture files between all three. When there is a task that need doing which requires him to write his own software, it is the Sinclair he sits in front of.

Phil became our treasurer in 1995 and earlier this year turned 16. He will be taking course in PASCAL programming next semester as C is not yet offered at his school.

How to Be Chic

by Gil Parrish

Picked up in cyberspace: a British computer group that still supports the 2068's European cousin. The group is the Chic Computer Club, an umbrella organization that has a number of SIGs (special interest groups) including SPECTRE for Spectrum and SAM Coupe owners. Spectrum models supported by SPECTRE include the basic 16K and 48K Spectrum, as well as the Plus, +2 and +3. (Other SIGs of Chic include, but are not limited to: STAMP for Amiga users; WICKED for the generation of game machines starting with the Nintendo, Sega and Gameboy; 8T2 for Commodore 64 & 128, Atari XE/XL, Amstrad CPC and other 8-bits; and CLUSTERS for Atari ST owners.) The SPECTRE SIG has a public domain tape library; it appears to include over 100 Spectrum programs available for 60p/program (about $1) plus media. Other club benefits include a regular newsletter (20-30 pages every 3-4 months), secondhand goods service, computer book lending library, discounts from and access to software from U.K. vendors, and an international shipping service.

Cost is listed at £7.95 + £2 international fee (about $16 total) for a 1 year, 1 SIG membership; but, various

length terms (up to 5 years) and classes of membership (like the 3- or 5-year "Gold" membership as an alternative to regular 3-5 year memberships) are available, as well as special offers being made from time to time (e.g., at the time I requested information, a £2 discount was being offered off the regular £16.95 price for an international 2-year, 1 SIG membership). Payment can be by credit card (for a 2% surcharge), US Dollar Traveler's Checks, or even in cash if you wish to chance the mails.

For a free introductory package, you can write:
CHIC COMPUTER CLUB
PO BOX 121
GERRARDS CROSS, BUCKS, SL9 9JP
UNITED KINGDOM

You can also send your request to Steve Winter, 100023.477@compuserve.com if you have access to Internet e-mail. Be sure to mention the SIG(s) in which you are interested.

QXL GHOSTS

by Al Feng

Over a year had passed since the time I had received an updated version of SMSQ from **Miracle**, so I felt compelled to write a query letter to Stuart Honeyball (aka Miracle Systems) to see if I had been dropped from their mailing list. I also wanted to ascertain why I neither received the post card announcing QL Today nor a free, trial copy that so many others seemed to receive.

No explanation for not receiving the anticipatory post card; but, I did receive an offer to subscribe (free copies were sent to those who lost out on IQLR subscriptions).

While I have passing interest in "new" products, I am more concerned with "existing" products and Stuart Honeyball's return query asking what I perceived to be wrong with the previous copy of SMSQ (v2.57). To this I responded with my short (but, significant) laundry-list of complaints:

1 After the novelty of having a QDOS compatible screen pop up on your PC, the diminished display size becomes annoying;

2 More than annoying is the atrocious WIN0_ overhead experienced; and,

3 Lack of **Turbo Compiler** compatibility is an annoying amazement since QDOS and SMSQ were both authored by Tony Tebby and because SBASIC is supposed to be SuperBASIC compatible.

SMSQ 2.76b

The good news is that I was sent a copy of SMSQ (2.76b) which accompanies the recently re-released version of the QXL (aka QXL2). I cannot say how the QXL2 differs from the earlier version other than coming with 8 Megs of memory for the price of the previous 4 Megs version (about $500).

I would hope that the I/O cache that was apparently developed for the Gold-Card-to-PC adapter was also incorporated; but, who knows?

The two, most noticeable SMSQ changes include the "WIN_FORMAT n" command which prevents accidental formats of a hard drive partition and the correct labeling of the QDOS WIN0_ partitions as 'WIN' instead of 'DD'.

The same problems as before (listed above) persist.

GHOST BUSTERS

DrvLink (Tony Tebby) is a new [Oct. 1996], supplementary program that I received after further correspondence with MIRACLE wherein I noted my shock at their suggestion of a 100 Megs WIN0_ partition in the README.EXP which accompanied SMSQ v2.76b.

It has been my observation that larger partitions use more overhead; that is, the end user only has a portion of the partition while the remainder seems to be locked-up by the QXL for overhead -- a 5 Megs partition was FULL after less than 2.0 me of data; and, a 16 Megs partition was FULL after about 6.5 me of data.

A simple extrapolation of the previously mentioned ratios suggest that a 100 Megs partition could easily gobble up 79 Megs for SMSQ overhead leaving only 21 Megs for the user! But, since it would appear that overhead use is not linear, the projected usable disk space would probably be less than 15 Megs.

The DrvLink program which was provided did indeed release the lost space on each partition, as intended. I don't know how it fixes the problem, but it does.

I confirmed that it worked by first adding just a few files WCOPied from another source. Okay. It later occurred to me that I should "pack" the partition to ensure that all of it was usable. After being left with ZERO sectors free, I tried to run QLAMBer, and received an insufficient disk space message. I was a bit perplexed, but I quickly realized that the problem was the result of QLAMBer's FLIST_imp file needing to be larger than before; so, I DELETEd the last file, and was indeed able to prove that all the free space on the drive was now available to the user.

DrvLink operation is simple. First, it asks if you have backed up all of your files before moving on to the next step in the program when it will try to break the barrier that has locked up the free space on the WIN0_ partition. With that caveat issued, you can proceed as you choose. I backed up WIN1_, ran the program, but later decided not to bother backing up the other WIN0_ devices.

The only problem I encountered with the other WIN0_ devices occurred when DrvLink aborted after encountering some **bad sectors** within a partition. So, I did back up this WIN0_ device, exited to DOS and DELeted the WIN.QXL file, re-FORMATted the WIN0_ drive, and WCOPied the files back to the WIN0_ drive, and then ran the DrvLink program.

The bottom line is that the DrvLink program works as Tony Tebby hoped it would (I presume that functional operation was uncertain and only theoretical since I

believe I received the first copy of the program).

If you have experienced premature messages of "device full" then request a copy from Miracle. Presumably, DrvLink will be included with all subsequent releases of SMSQ.

REMAINING GHOSTS

Apparently, the TURBO compiler's incompatibility will remain until Tony Tebby's hubris is quashed and he decides to ensure SBASIC compatibility with SuperBASIC. Is this a problem? I don't know. You have to decide how inconvenient this is for you.

The smaller screen will remain until either Tony Tebby and/or Stuart Honeyball and/or Jochen Merz realize how unhappy SMSQ users are with the product as delivered. Enlarging the usable area of a VGA display can be done in more than one way; but, the only (?) way that Tony Tebby can envision this being done is via a direct enlargement of the pixels.

Perhaps, I am naive in this matter. Nonetheless, I did offer a suggestion which should be viable; and, I will repeat it here:

First, the general 512x256 field has to be DEFAULT remapped (expanded) in a manner not dissimilar to the SVGA mode.

Second, CSIZE 0,0 is defaulted to a corrected CSIZE 1,1 whereby the height is reduced to 12/17ths (twelve seventeenths), or essentially:

CSIZE 1, 0.758824

The "height" that I suggest is based on my observation that **12 lines** of SMSQ'd CSIZE 1,1 take up the same vertical space as **17 lines** of DOS text. The "width" would appear to be approximately the "same" in CSIZE 1,1 as standard DOS generated text. It should not be difficult to generate and "clean up" the appearance of the font after this.

The GRAPHICS would be readily adjusted by whatever factor the general mapping area is expanded. As suggested (H=512 & W=256):

H x 1.875
W x 1.250

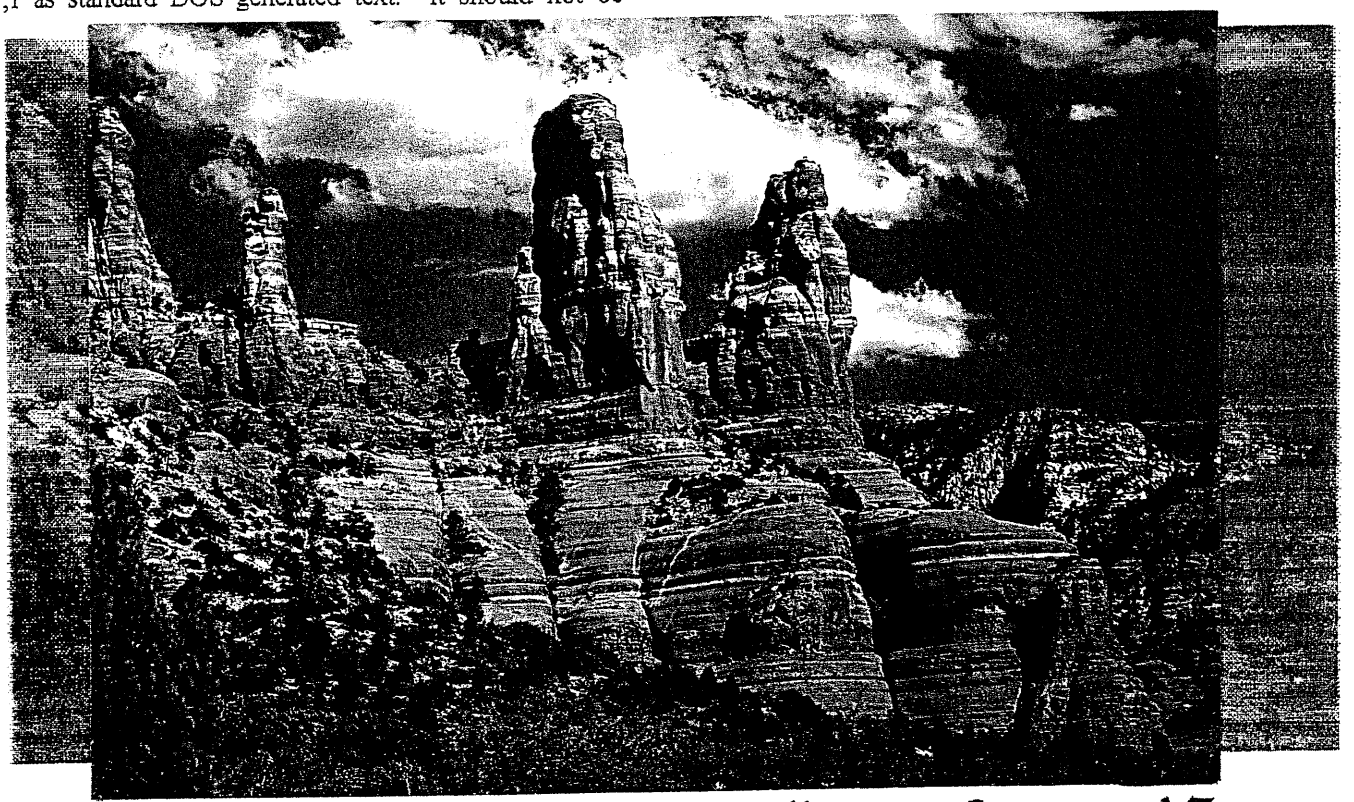
By letting a modified CSIZE do 90% of the expansion work, any anticipated processor overhead should be minimized or eliminated; and certainly, the bit-mapped BLOCKs can/will be simply expanding when the overall area is remapped. But, I could be wrong.

The impression I got from the correspondence received from Stuart Honeyball was that I am the only person who has complained about the diminished display generated. Can it be so? The display won't be corrected if I am the only person who expresses a negative opinion about it.

Perhaps the presence of competing products (i.e., QUBBESoft's "Aurora" VGA-compatible motherboard replacement in tandem with their Super Gold Card 2) will provide Miracle with an epiphany sooner-than-later and their release of version 3.nn of SMSQ with "enhanced" video display will be more than a hoped-for item.

However, if I am have been the only person to express a disappointment with the display generated, then SMSQ users will probably have to wait until Honeyball-and-company finally become annoyed with viewing the reduced on-screen font size.

HAPPY TRAILS,
AND COMPUTING, TO YOU ... ...



Red mountains above green valley — Sedona, AZ

Daisy Be Good IX

by David Lassov

Welcome, guys and gals, to the next installment of ***daisy mae ueber alles***, or "Daisy word processor is the best such software, encountered by us for the Timex-Sinclair 2068 computer and Brother 1109 printer". We fetch Daisy Disk 1, as issued by UPDATE! Magazine, put it into Disk Drive 0, and switch the computer ON, while holding down the ENTER key, thus performing a LOAD of the file AUTOSTART on our said disk. DD0 commences to grind away; Bill Jones' broadside comes up with a directive, "Press A Key..."; and, we arrive at the main menu, Function Menu, by pressing 3,2,1,n,y,y, in turn.

Well, this time, we consider item 8, "Office Tools," on the function menu, that is, we press "8" and bring the Office Tools menu to the screen. It contains twelve options.

Option 1 is called Turbo Change and displays the current value of the variable, turbo, e.g., now it shows "turbo=0" . This is the *slow virtual memory* means by which Bill selects which configuration of Daisy he wishes to use during the current session. There are four, and we disks them in the accompanying article on my souped-up version, where I have broken out each such incarnation into four separately LOADable word processors.

Option 2 calls up Cdbse.B6, which manages data bases with extensions of .Cx (CODE) as you see with Tasword, Mscript, or download files from telecomm. We are first offered the option of specifying, where Cdbse be LOADed from, or escaping back to Daisy, as Cdbse IS an independent program, replacing Daisy and data from RAM. We will disks Cdbse, later.

Option 3 does the same with Dbase-1, which performs many tricks with record files. Let's consider Dbase-1, later.

Option 4 Daisy Word Processor, presents two more options. [1] Use Daisy Auto Print Menu, and [2] Word Process Disk Files vis LOAD Udbx.B6 Program. Well, [1] is just the "User Pgm Gp", as discussed last time. And, [2] is just the "Word Proc. 1-50 Disk Files", also of last time.

Option 5 uses Dbs (Mail Merge), presents the user with the option to either LOAD Dbx.B6, or MERGE Dbx.B6 in order to discard data, or not, respectively. Dbx.B6 is a dbms, or data base management system for building mailing lists. It is like Dbase-1, more like "Dbase-7", since its records have up to seven fields. Later.....Option 6 calls VU-CALC, which is completely independent.

Option 7 is pressed, in order to escape back "To Function Menu" .

Option 8 Page Management, is used in conjunction with "typewriter mode" and will be talked about later.

Option 9 leads us back to the very beginning of our session with Daisy, reloading Bill Jones' banner, and permitting REINITialization of the print parameters, such as printer type (TS-2040, Dot Matrix, or Daisy Wheel,) interface (Oliger, AERCO, Tasman, or A & J,) any necessary line feeds, any desired right justification, and any indentation of the first line of paragraphs. Then, we come back to the Function Menu.

Option 10 calls up the creation and/or printing of Daisy's outline data base. It extends to two levels, and involves two multi-dimensioned arrays, k$(mj,32) and v$(mj, sb, 32). Clever, and Bill's word processor is applicable to them at every step of the way. **[A]** calls upon the previously discussed Disk Management Tools, by pressing capital a ==>>> A. You can get to these disk management tools directly from the function menu, by Option 5, data management menu, then option <C> at the Utility, SAVE, DELETE, and LOAD menus, following. In fact, the disk management tools are so useful, as to have been already discussed separately on page 18, Number 1, Volume 6, ZQA, published this Spring. The ONLY problem is, that it's a two-fingered stroke of "A" or "C", in order to get to them. So, you know they gotta be pretty darned useful!

[B] loads Udbm.B6, which is entirely independent. It is a universal data base manager for the 2068, managing any and all files, written for the 2068. Later!! Well. that's twelve options, so we must be through considering the Office Tools menu.

All right, now one of the reasons, that ManlAd.B6, PO+MM.B6, IN+ED.B6, and dbms.B6 be lots better than Daisy.B6 with turbo=3, 2, 1, and 0, respectively, is that we can LOAD ManlAd FASTER than we can DELETE and MERGE Daisy, in order to get to turbo=3. We can LOAD PO+MM.B6 a lot faster than transform Daisy.B6 for turbo=2. We can LOAD IN+ED.B6 much FASTER than we can transform Daisy.B6 into software, corresponding to turbo=1. Lastly, dbms.B6 is ***quicker*** to LOAD than Daisy.B6 can have turbo changed to 0. In fact, look here at Bill's menu.

We see, that dbms.B6 be characterized by ***maximum free RAM***; IN+ED.B6 optimized for INPUT and EDIT of daisy data bases; PO+MM.B6 be setup for ***maximum printing speed*** (also room for large mailing list); and, ManlAd.B6 have both INPUT and PRINT on board. Of course, ManlAd has very little FREE RAM, requiring manual addressing with no automatic mail merge.

Office Tools Menu

1. Turbo is already fixed at 0 in dbms.B6.

2. Lets you SAVE data, escape back to dbms.B6, or LOAD Cdbse.B6.

3. Does the same for Dbase-1.

4. Is disabled, since we are not printing with dbms.

5. Lets you SAVE data, escape back to dbms.B6, or LOAD Dbx.B6, in order to manage large mailing lists.

6. Does the same for OmniCalc, or for whatever spread sheet, considered better than VU-Calc.

7. Brings up the Function Menu.[8]

8. and [0] are disabled, since dbms is not for printing. A **single** stroke of "a" brings on the disk management tools. And, a **single** stroke of "b" offers a choice of a data SAVE, escape back to dbms, and LOAD of Udbm.B6

[1], turbo is already fixed at 1 in IN+ED.B6. [2] and [3] are both disabled, since IN+ED is not for branching out. [4] is disabled since IN+ED is not for printing. [5] and [6] are` disabled, since IN+ED not be for branching out. [7] escapes back to the Function Menu. [8], [9], and [0] are disabled due to no need for printing in IN+ED. [a] accesses all those neat disk management tools. And, [b] is disabled, due to lack of branching. In PO+MM.B6, [1] finds turbo already fixed at 2. [2] and [3] are disabled, due to lack of branching. [4] brings up last time's Printing Menu for "Word Processing With User Program Group". [5] and [6] are disabled, due to lack of branching. [7] escapes back to the Function Menu. [8] brings on Page Management, in support of Daisy's typewriter mode. [9] REINITializes the printer. [0] is disabled to conserve memory. [a] takes us to Disk Management Tools. And, [b] is disabled, due to lack of branching. Now, in the case of ManlAd.B6, this is a souped-up version of what Bill refers to as "Daisy Mae," since it's LOADed with every Daisy capability. Unfortunately, there is neither world enough nor time enough nor RAM enough .... But, we have retained practically everything, and we are saving ManlAd for a bank-switched version, which should provide lots more RAM.

Let's see what the Office Tools Menu has for ManlAd. [1] leaves turbo, set at 3. [2] and [3] are disabled, due to lack of branching to conserve RAM. Use dbms.B6 for branching. [4] branches in the Printing Menu from RAMdisk. [5] and [6] are disabled, due to lack of branching. [7] escapes back to the Function Menu. [8] calls up the Page Management menu for typewriter mode. [9] escapes daisy itself, in order to REINITialize the printer. [0] branches in the menu for "Data Processing." This governs creation and printing of outline data bases. [a] accesses the Disk Management menu. And, [b] has been disabled, due to lack of branching, in order to conserve memory.

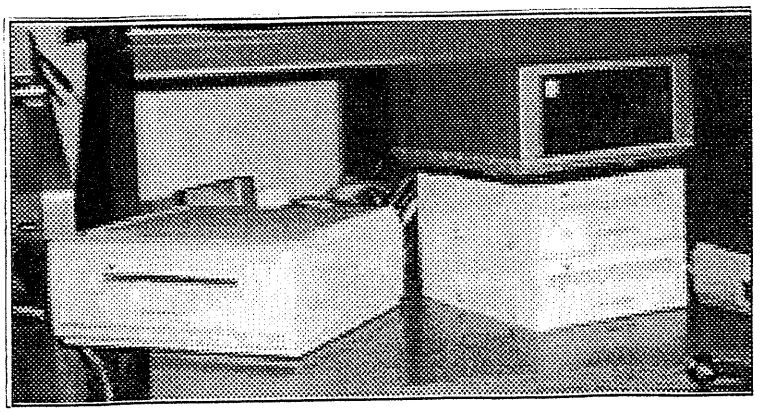
Next time, we'll consider the "typewriter mode" of daisy, since that includes discussion of practically the rest of the menu. Seeya ..... .

KEEP ON TIMEX'n

DISK DRIVE DRESS-UP

by Les Cottrell

ZXir QLive Alive ran an ad for Prime Components some time ago for a new 3.5" disk drives for $25. They were external add-ons for one of the Tandy computers housed in a very large case. A single cable brought both the power and the data connections out of the case. Inside the case this cable attaches to an adapter board which has the normal connections to the drive itself. There is also a heavy aluminum shield around the drive unit. Mod #1 (shown on the left above) consisted of removing the adapter board and shield, then shortening the metal base and plastic case.



First you must remove the plastic case and mark the bottom of the base at the rear of the drive unit. Next remove the shield, disk drive unit and the adapter board. Reassemble the base and case so that you can match drill the two units ahead of the mark you have made. If you have taps find a drill that will just go through the tapped holes. Disassemble the two parts again to shorten them. There is a natural point to cut the base about 5.8 inches from the front. The rear pair of rubber feet can be installed in the rearmost vent slot by enlarging the slot with a drill. Now cut the plastic case about 5.8 inches from the front. If you are re-using the original fasteners enlarge the hole in the plastic case, countersink the hole slightly and tap the metal base. Assemble the drive to the base and install the cover and you have completed mod #1.

Mod #1 was deemed too tall (2.6") and too wide (6.5") when two were stacked with a 3" Zebra drive on top of them. So mod #2 was born. After removing the drive(s) as above also remove the tall mounting screw/spacer from the bottom of the drive(s) .

A template was made from a piece of paper by standing the two drives on their side, laying the paper on top and marking the location of the side attaching screws. Make an outline leaving a little extra between the two units and at the bottom. I made the sides from a discarded white plastic monitor shell, but almost any flat stock could be

used. After making and attaching the sides very carefully trim the front panel (s) flush with a fine toothed saw such as a hacksaw. If desired a top cover could be made from the same material and glued in place. I left the top off in order to access the drive select jumper (D0, D1, etc.) on the top unit. Don't forget to change jumper, if desired, on the lower unit before assembly.

Lesson learned: If you are using Y-adapters for disk drive power supplies don't assume that the color coding for the normal power hook-ups has been used. Reversing the +5 and the +12 volts into the drive will ruin the drive.

Telecommunication: À La TS-2068

by David Lassov

In this paper, we discuss telecommunications, involving our Timex-Sinclair 2068 and LarKen software. These results grew out of our attempts to CAPTURE textual information, while on-line with a caller to SOL BBS. Well, to make a long story short, we can make such a capture, but only by giving up the ability to return to BBS mode, and continue our on-line session. In other words, by changing to TALK mode, we are essentially in terminal mode and can do arbitrary text transfers. As you recall, we have broken LarKen's MaxCom software out into two versions: Terminal and Bulletin Board. They differ only in the BASIC code, while using the same Z-80 CODE, called Maxbbs.C1, occupying bytes 57800 through 63219. With this software, when the caller to the BBS presses "t", we go to TALK mode; and, if the caller intends to SEND ASCII; why, there is no ASCII file transfer protocol, and the ASCII file must be sent by XMODEM checksum 128. This creates problems, trying to read the text, sent by XMODEM, since all the control codes are sent too, and may conflict with our software for reading ASCII. That's one of the good things about the Daisy word processor. The text created is just a string of ASCII, no control codes!

In order to effect an ASCII transfer, I exit TALK mode, by pressing STOP; display the RAMdisk Main Menu, by pressing "Q", in order to quit the MaxCom Main Menu; and, LOAD TERMax, by pressing "5" at the RAMdisk Main Menu. This terminal software loads, and the **line** parameter is displayed as still "ON", thereby indicating a good telephone connection. So, I open a capture buffer and proceed to TERM mode, where we capture the ASCII file, which the caller just PRINTs to his screen. Afterwards, I close the capture buffer, quit back to RAMdisk; and, reLOAD MaxCom, which comes up with the **line** still "ON". Well, it's easy to get back to TERM mode, by pressing "t" at the MaxCom Main Menu, but we cannot get back into BBS mode, in order to continue the on-line session, without breaking the telephone connection. For, the reLOAD of MaxCom, while leaving the **line** still "ON", does not permit the BBS to be simply reentered, since the modem parameters are clobbered, somehow. BBS mode seems to be the problem, since it requires special handling, in order to answer the phone. But, should we only be in TERM mode, or only have TERMax LOADed, then there are some special procedures, which permit textual communication, as between two TTY100 terminals.

Just leave the setup in ANSWER mode, by ENTERing "atx1" and "ats0=1" in terminal mode. Then, whenever the phone rings (displaying RING,) the modem will answer, automatically.

From here, all kinds of ASCII transfers can be conducted; you can write on each other's screens, according to whether duplex be FULL or HALF; and, BASIC programs can be LOADed and SAVEed, as long as that magic area from 57800 to 63219 be left alone.

I fear this is ***old hat*** to many of you, but it ***surely opened my eyes***, and I felt it necessary to share this enlightenment with as many programmers as possible, the sooner the better!

Here is another one: We are going to discuss, accessing the Internet, cheaply, via our Timex-Sinclair 2068, armed with LarKen MaxCom software. Our results apply to any terminal, setup to emulate, or reproduce the capabilities of, a TTY100 terminal. This includes possibly spectrums and TS1000s, armed with suitable software like MTERM or SPECTERM. For practicality, we expect only **textual** access, rather than transfer and display of **graphics**. Graphical access is possible on the 2068, but takes too much time.

So, we need only a shell account at $20 per month. Ours is with the morning newspaper, which runs daily information in the paper on the latest web sites and world-wide links. The kind of access, we have in mind, is the availability of Email, world-wide-web, USENET (newsgroups), gopher-space, FTP, mailing lists, telnet, talk, irc, and muds. That, there, is a list of complementary and exciting information sources, where the only cost involved is the said $20 monthly for a shell account. So, what's the catch? The shell account has to run on a machine, that speaks UNIX (all of them do), and you must learn a simple programming language, called UNIX *very nice*. Before our next get-together, let's get you connected to the Internet, via a shell account that runs on a UNIX machine; let's begin to absorb a little UNIX; and, let's look at some of those Internet indices. As above, our system is based upon a TS2068 with MaxCom software, and the background knowledge has been picked up from "The UNIX Companion", "The Internet Complete Reference," and "The Internet yellow pages". They are all by Harley Hahn and published by Osborne McGraw Hill. But, any comparable books will do. Of course, you can keep reading ***these*** pages to get the necessary information!

SeekQL 2.09 - Part 1

by Al Feng

SeekQL is a stand-alone, SuperBASIC database program which is intended to also complement the Archive-based DBEasy (Wood and Wind Computing) front-end program. SeekQL is capable of writing and reading multiple files which have dedicated, user-defined and record-specific field labels; and like DBEasy, you can easily sWitch between files.

The main purpose of the SeekQL program is to create and access a simple names-and-addresses database using DBEasy compatible "_exp" files (the truth is out there) -- you can either read existing DBEasy "_exp" files using SeekQL, or you can create DBEasy compatible "_exp" files.

In an effort to make the migration between the SeekQL and DBEasy database environments easier, the SeekQL program provides the user with a simplified, read-only representation of the DBEasy "single menu" record screen that I use.

The Program's History

Several years ago, I found myself relegated to using my unexpanded, backup QL. Despite the hardware limitations, the need for a database remained. Since Archive's programming language was too much for me to handle, I opted to write a simple, hierarchical, program ("Sbase") that wrote-and-read a simple "_txt" file. Quill was used for editing and printing address labels. Sbase's functionality was marginal; and I ended up relying more on Quill to both manipulate and read the file(s).
Although my hardware problems were resolved, the idea of enhancing the original Sbase program to also create "_DIF" (data interchange format?) files eventually led to the prototype for the "SeekQL" program. My brief sojourn in "Navajoland" interrupted thinking about and/or working on the program.

After the interlude, it occurred to me that the SeekQL program would have greater utility for me if it wrote/read DBEasy compatible "_exp" files.

Vestiges of the original program include the design of the "first" menu page and many of the PROCedure names. However, the "hotkey" concept employed by DBEasy is used in tandem with the "Function" keys ("F6" == "shift F1" & "F7" == "shift F2", etc).

Using The SeekQL Program

Before you can read any database, it must exist. The directorY (press "F9" or "y") feature which will show you all of the files having an "_exp" suffix on the medium.

If you are NOT using an existing DBEasy compatible "_exp" file then you need to Create the file that you want to access. Of course, you will want to assign a meaningful filename (8 char. max) which suggests the nature of the data or use the default ("GADDRESS" == general address).

To sWitch the name, press the "F4" or "w" key and then INPUT the database's "new" name.
Next, you will want to establish the specific field names that will be dedicated to the "_exp" file by pressing either the "F7" (shift F2) or "s" key for the program's Screen edit function since this will make it easier to INPUT the data.

The field label file that is generated by the SeekQL program will have a "_lbl" suffix appended to the filename you have designated.

The "_lbl" file will be automatically loaded into the program when you Open an "_exp" file from the same storage device as specified for the "_exp" file. If the "_lbl" file is missing from the storage device, none will appear on the screen. Either copy the the "_lbl" file from a(ny) source, or "screen edit" a new set of labels.

SeekQL has no editing features beyond the initial creation of various files (nnnn_exp, nnnn_lbl & LineF_eed) which makes it particularly well suited for environments where the integrity of the database is a concern (e.g., a NETwork node).

The Print selection is set up for address labels, again "sharing" the format established within DBEasy; however, it is not set up to print the "country" field. The printer output can be readily extended to any "custom" output that you might be able to generate within DBEasy by modifying the "exp_to_txt" PROCedure (LINEs 2450 to 2840).

If you want to use the address label printing function as LLISTed, then the recommended labels for the first seven fields are:

Last Name
First Name
Address
more Address
City
State
Postal Code

As with DBEasy, these are only suggestions, and you can use whatever field labels that you choose.
Now, press either the "F2" or "c" key to Create the "_exp" file. Input data that corresponds to the labels you have defined.

As with DBEASY, the presumed "date" of the RECORD is the current date (presuming the QL's clock is correct). Whenever you have an active cursor, you can INPUT whatever date-or-data you choose. When you have finished putting in all the data for the final record in your database and the program presents you with a new RECORD screen, then INPUT "end" in the "date" field to close the file.

The "_exp" file you have Created can now be Opened for use directly by the SeekQL program or imported into DBEasy (or, Archive, alone).

Please note that if your ROM does not process WHEN ERRor properly, and the program halts (presuming you typed it in properly), then simply type "continue" to complete the *Open* process if it has balked. If the program still balks, then you will also need TK2_EXTensions (see below).

In addition to use of the arrow_keys for next/back/first/last, the user has the following options:

Find More Record Print sWitch Exit

While SeekQL's functionality might seem limited, it includes the most used (by me, anyway) features of a database; and, the lack of extended features should make the program less intimidating and more accessible for the novice and yet provide a useful complement for the experienced (DBEasy, in particular) database user.

The Find and More search is case sensitive and defaults to lower case to provide a general search. Where appropriate, you can indicate an upper case search for proper nouns. Thus, using lower cases and the word "and" will provide find all instances of 'and', 'land', and other words containing the search string. On the other hand, using the upper case and the word "and" will not find 'land' but will find words such as 'Andrew', 'Andover', etc.

If you know the specific Record number, you can request it specifically.

As within DBEasy, you can sWitch between your "_exp" databases from the single record screen or from the main menu screen.

SeekQL operates in 80 column, monitor mode.

About The Program LLISTing

The program is rather long, but every attempt has been made to purge the really redundant statements.

Some statement clusters which might have been consolidated into a single PROCedure have not been to make "reading" the LLISTing a little easier.

SeekQL was designed to run on any QL -- from an unexpanded QL having only microdrives to a **QXL** (SeekQL's "search" and "display performance will be better with computers having faster processing speed). Well, that was the plan ...

The following LLISTing works well with either MINERVA or SMSQ. No TK2_EXTensions are necessary.

For reasons that are not clear to me, yet, several adjustments to the program have been necessary to make it work with the standard JSU ROM -- some of the "fixes" were minor, and some were major.

The minor changes included amending the width of BLOCKs to a maximum of only 511 (sedit, redit, Cmd_Line). The major changes relate to the on-screen display of the files, are still quirky (for example, 'commas' are not read to the screen) and are too lengthy to relate herein. Most serious in the "JSU" version is the fact that at the current time "find" and, "more" do not function.
If you have a JSU (or, JS) ROM, or equivalent, and feel adventurous, then you can attempt to amend the current LLISTing.

If you are using a 128K QL (i.e., with a MINERVA ROM), then you will have to change LINE 2590 to read:

2590 DIM Z$(100,512)

or, 2590 DIM Z$(72,640)

The first number (100) is indicates the number of RECORDS the SeekQL program will read, and the second number (512) indicates the maximum amount of data that will be read from each RECORD by the program.

You also need to change LINE 2610 to:

2610 FOR c=0 TO 102

or, 2610 FOR c=0 to 74

These are just suggestions. If you have extensive data in each RECORD then you will probably want to maintain the second number at '756' and reduce the first number to '64' and the upper value in LINE 2610 to '66'. If you have extensive data in each RECORDS and you have more than 64 RECORDS then you are a candidate for memory expansion. For the time being, take advantage of the program's multi-file feature and split your data into more discrete files.

Of course, if your default storage device is not flp1_ then you also want to change LINE 210; for example, if you want to LOAD the program from mdv1_ then LINE 210 should read:

210 Dvice$ = "mdv1_"

Also, if you do not have "ram()_" devices, then references to "ram1_" should be changed to "Dvice$" for those PROCedures to function properly.
I have actually found that WHEN ERRor is impeded on the JSU and JS ROMS when TK2_EXTensions are invoked using a 128K QL. If your QL's ROM does not process WHEN ERRor properly then try changing LINE 2430 to:

2430 CONTINUE

As LISTed, the program uses my default for the labels that I use if-and-when the LineF_eed file is not found on the LOADing device. Once you ascertain the proper settings for the labels you use, you should input the appropriate data in LINE 2430.

SAVE the program on a fresh medium, RESET your computer, and see if the program LOADs.

If the program still halts, then REMark LINEs 2420-2440 and 2630-2650 (i.e., the "WHEN ERRor" routines) and SAVE; but, do not omit these lines from the LISTing. Now, when the SeekQL program halts, type "continue" (and then, press the ENTER key) to proceed.

Of course, the "other" REMarked statements can be omitted. The REMarked DIM statement (LINE 80) is incomplete and has been included for reference purposes.

If you do not want to type in the program, the program is available from me for $10.00 ($10.00 is the requested SHAREWARE price -- in addition to the program, you will receive sample files, and other PLATYPUS Software programs). Don't forget to state the disk size you use, otherwise a 3.5" disk will be sent; microdrive users should also send two formatted microcartridges.

HAPPY TRAILS,
AND COMPUTING, TO YOU ...

```
 10 REMark ***********************************
 20 REMark *       SeekQL v2.09
 30 REMark *        by Al Feng
 40 REMark *  914 RIO VISTA CIRCLE  SW
 50 REMark *   ALBUQUERQUE, NM  87105
 60 REMark *  @ 1992-7  PLATYPUS Software
 70 REMark ***********************************
 80 REMark DIM BLANK$(12), Dvice$(8), n$(16),
    Label$(12), Sname$(16), EXTen$(5), c$(2),
    cap$(2), find$(80), REC$(256), now_$(20),
    Datum$(10), Mo$(16),  offset$(12),
    Press$(26), date_$(32), key_$(32),
    s1_$(72), s2_$(72), s3_$(72), s4_$(72),
    s5_$(72), s6_$(72), s7_$(72), s8_$(72),
    s9_$(72), s10_$(72), n1_$(24), n2_$(24),
    n3_$(24), n4_$(24), n5_$(24), n6_$(24)
 90 :
100 WINDOW#0,350,32,142,220: PAPER#0,7: INK#0,0
110 WINDOW#1,512,256,0,0: PAPER#1,7: INK#1,0
120 WINDOW#2,512,256,0,0: PAPER#2,7: INK#2,0
130 :
140 OPEN#3,scr_286x92a42x20
    : REMark drop_down window
150 POKE 163976,255
    : REMark CAPS on
160 :
170 GR=0
    : REMark 0=paper 7   1=paper 31
180 n=0: lstnm=0: s=0: lf=0: offset=1
190 :
200 Blank$ = "          "
    : REMark 12 spaces
210 Dvice$ = "flp1_"
    : REMark default data device
220 EXTen$ = "_exp"
    : REMark Filename EXTension
230 Find$  = "NULL"
240 Label$ = "SeekQL 2.09"
    : REMark program name
250 Sname$ = "GADDRESS"
    : REMark default file name
260 Press$ = "PRESS [Any_Key] to CONTINUE"
270 :
280 Pre
    : REMark opening screen
290 Adjust_Printer
300 offset$= Blank$(1 TO offset)
310 menu
    : REMark menu screen
320 :
330 DEFine PROCedure bop: BEEP 300,30: END DEFine
340 DEFine PROCedure stripe: STRIP 7: INK 0:
    END  DEFine
350 DEFine PROCedure FndBlnk: Find$="":
    BLOCK 330,12,172,220,7: END DEFine
360 DEFine PROCedure CLStrip: BLOCK 340,10,0,10,7:
    END DEFine
370 DEFine PROCedure CLPart: BLOCK 500,60,0,21,7:
    END DEFine
380 DEFine PROCedure CLScreen:
    BLOCK 500,220,0,21,7: END DEFine
390 :
400 DEFine PROCedure Pre
    : REMark Opening
410 CLS: CLS#2
420 AT #2,20,5: PRINT#2,Label$;TO 20;
    "by Al Feng"\TO 5;"@ 1997  PLATYPUS Software"
430 FOR n=2 TO 7: AT#2,21,10: PRINT#2,n: PAUSE 8:
    NEXT n
440 END DEFine Pre
450 :
460 DEFine PROCedure datum
470 LET now$=DATE$
480 IF now$(6 TO 8)="Jan" THEN Mos$="01"
490 IF now$(6 TO 8)="Feb" THEN Mos$="02"
500 IF now$(6 TO 8)="Mar" THEN Mos$="03"
510 IF now$(6 TO 8)="Apr" THEN Mos$="04"
520 IF now$(6 TO 8)="May" THEN Mos$="05"
530 IF now$(6 TO 8)="Jun" THEN Mos$="06"
540 IF now$(6 TO 8)="Jul" THEN Mos$="07"
550 IF now$(6 TO 8)="Aug" THEN Mos$="08"
560 IF now$(6 TO 8)="Sep" THEN Mos$="09"
570 IF now$(6 TO 8)="Oct" THEN Mos$="10"
580 IF now$(6 TO 8)="Nov" THEN Mos$="11"
590 IF now$(6 TO 8)="Dec" THEN Mos$="12"
600 LET date_$ = now$(3 TO 4) & "/" &
    Mos$(1 TO 2) & "/" & now$(10 TO 11)
610 END DEFine
620 :
630 DEFine PROCedure sedit
640 PAPER 7: CLS
650 BLOCK 512,40,0,0,2
660 redit
670 END DEFine sedit
680 :
690 DEFine PROCedure redit
700 BLOCK 512,20,0,236,0
710 BLOCK 400,110,100,45,0
720 BLOCK 150,40,100,162,0
730 BLOCK 150,40,350,162,0
740 END DEFine redit
750 :
760 DEFine PROCedure labels
770 BLOCK 86,160,10,45,7: BLOCK 86,40,260,167,7
780 stripe: ShowLabel
790 FOR m=1 TO 10
800 AT 4+m,2: PRINT L$(m)
```

```
  810 NEXT m: END FOR m
  820 FOR m=11 TO 13
  830 AT 6+m,2: PRINT L$(m)
  840 NEXT m: END FOR m
  850 FOR m=14 TO 16
  860 AT 3+m,44: PRINT L$(m)
  870 NEXT m: END FOR m
  880 END DEFine
  890 :
  900 DEFine PROCedure ShowLabel
  910 DIM L$(16,11)
  920 OPEN_IN#5,Dvice$ & Sname$ & "_lbl"
  930 FOR m=1 TO 16
  940 IF EOF(#5) THEN EXIT m
  950 INPUT#5,L$(m)
  960 END FOR m: CLOSE#5
  970 END DEFine
  980 :
  990 DEFine PROCedure MakeLabel
 1000 CLS: sedit
 1010 OPEN_NEW#5,Dvice$ & Sname$ & "_lbl"
 1020 AT 5,2: PRINT Blank$: AT 5,2: INPUT s1$:
    IF LEN(s1$)>12 THEN GO TO 1020
 1030 AT 6,2: PRINT Blank$: AT 6,2: INPUT s2$:
    IF LEN(s2$)>12 THEN GO TO 1030
 1040 AT 7,2: PRINT Blank$: AT 7,2: INPUT s3$:
    IF LEN(s3$)>12 THEN GO TO 1040
 1050 AT 8,2: PRINT Blank$: AT 8,2: INPUT s4$:
    IF LEN(s4$)>12 THEN GO TO 1050
 1060 AT 9,2: PRINT Blank$: AT 9,2: INPUT s5$:
    IF LEN(s5$)>12 THEN GO TO 1060
 1070 AT 10,2: PRINT Blank$: AT 10,2: INPUT s6$:
    IF LEN(s6$)>12 THEN GO TO 1070
 1080 AT 11,2: PRINT Blank$: AT 11,2: INPUT s7$:
    IF LEN(s7$)>12 THEN GO TO 1080
 1090 AT 12,2: PRINT Blank$: AT 12,2: INPUT s8$:
    IF LEN(s8$)>12 THEN GO TO 1090
 1100 AT 13,2: PRINT Blank$: AT 13,2: INPUT s9$:
    IF LEN(s9$)>12 THEN GO TO 1100
 1110 AT 14,2: PRINT Blank$: AT 14,2: INPUT s10$:
    IF LEN(s10$)>12 THEN GO TO 1110
 1120 AT 17,2: PRINT Blank$: AT 17,2: INPUT n1$:
    IF LEN(n1$)>12 THEN GO TO 1120
 1130 AT 18,2: PRINT Blank$: AT 18,2: INPUT n2$:
    IF LEN(n2$)>12 THEN GO TO 1130
 1140 AT 19,2: PRINT Blank$: AT 19,2: INPUT n3$:
    IF LEN(n3$)>12 THEN GO TO 1140
 1150 AT 17,44: PRINT Blank$: AT 17,44: INPUT n4$:
    IF LEN(n4$)>12 THEN GO TO 1150
 1160 AT 18,44: PRINT Blank$: AT 18,44: INPUT n5$:
    IF LEN(n5$)>12 THEN GO TO 1160
 1170 AT 19,44: PRINT Blank$: AT 19,44: INPUT n6$:
    IF LEN(n6$)>12 THEN GO TO 1170
 1180 PRINT#5, s1$\s2$\s3$\s4$\s5$\s6$\s7$\
    s8$\s9$\s10$\n1\n2$\n3$\n4$\n5$\n6$
 1190 CLOSE#5
 1200 END DEFine
 1210 :
 1220 DEFine PROCedure MakeFile
    : REMark create File
 1230 sedit: labels
 1240 OPEN_NEW#5,Dvice$ & Sname$ & EXTen$
 1250 STRIP 2: INK 7
 1260 AT 1,2: PRINT "Using :  ";Sname$ & EXTen$
 1270 datum
 1280 AT 2,2: PRINT " Date :  ";date_$
 1290 AT 2,40: PRINT "Key :  "
 1300 IF xyz<1 THEN PRINT#5,"'date_$","key_$",
    "s1_$","s2_$","s3_$","s4_$","s5_$","s6_$",
    "s7_$","s8_$","s9_$","s10_$","n1_","n2_",
    "n3_","n4_","n5_","n6_"': xyz=xyz+1: END IF
 1310 AT 2,10: INPUT now_$
 1320 IF now_$="" THEN datum: date_$=date_$:
    ELSE date_$=now_$
 1330 AT 2,10: PRINT date_$;Blank$
 1340 IF date_$ == "END" THEN GO TO 1370
 1350 IF date_$ <> "END" THEN add_Name
 1360 GO TO 1250
 1370 PRINT#5,CHR$(26)
 1380 CLOSE#5: GR=0: date_$ = "":  menu
 1390 END DEFine
 1400 :
 1410 DEFine PROCedure add_Name
    : REMark continue create
 1420 BLOCK 240,10,270,20,2
 1430 AT 2,46 : INPUT key_$
 1440 STRIP 0: INK 5
 1450 AT 5,19: INPUT s1_$
 1460 AT 6,19: INPUT s2_$
 1470 AT 7,19: INPUT s3_$
 1480 AT 8,19: INPUT s4_$
 1490 AT 9,19: INPUT s5_$
 1500 AT 10,19: INPUT s6_$
 1510 AT 11,19: INPUT s7_$
 1520 AT 12,19: INPUT s8_$
 1530 AT 13,19: INPUT s9_$
 1540 AT 14,19: INPUT s10_$
 1550 AT 17,19: INPUT n1_$: IF n1_$=""
    THEN n1_$="0": END IF : FOR h=1 TO LEN(n1_$):
    IF n1_$(h)>CHR$(57) OR n1_$(h)<CHR$(48)
    THEN bop: n1_$="0": END IF : NEXT h: END FOR h
 1560 AT 18,19: INPUT n2_$: IF n2_$=""
    THEN n2_$="0": END IF : FOR h=1 TO LEN(n2_$):
    IF n2_$(h)>CHR$(57) OR n2_$(h)<CHR$(48)
    THEN bop: n2_$="0": END IF : NEXT h: END FOR h
 1560 AT 19,19: INPUT n3_$: IF n3_$=""
    THEN n3_$="0": END IF : FOR h=1 TO LEN(n3_$):
    IF n3_$(h)>CHR$(57) OR n3_$(h)<CHR$(48)
    THEN bop: n3_$="0": END IF : NEXT h: END FOR h
 1580 AT 17,61: INPUT n4_$: IF n4_$=""
    THEN n4_$="0": END IF : FOR h=1 TO LEN(n4_$):
    IF n4_$(h)>CHR$(57) OR n4_$(h)<CHR$(48)
    THEN bop: n4_$="0": END IF : NEXT h: END FOR h
 1590 AT 18,61: INPUT n5_$: IF n5_$=""
    THEN n5_$="0": END IF : FOR h=1 TO LEN(n5_$):
    IF n4_$(h)>CHR$(57) OR n5_$(h)<CHR$(48)
    THEN bop: n5_$="0": END IF : NEXT h: END FOR h
 1600 AT 19,61: INPUT n6_$: IF n6_$=""
```

```
THEN n6_$="0": END IF : FOR h=1 TO LEN(n6_$):
   IF n6_$(h)>CHR$(57) OR n6_$(h)<CHR$(48)
   THEN bop: n6_$="0": END IF : NEXT h: END FOR h
1610 PRINT#5,"";date_$;"","";key_$;"","";s1_$;
   "","";s2_$;"","";s3_$;"","";s4_$;"","";s5_$;
   "","";s6_$;"","";s7_$;"","";s8_$;"","";s9_$;
   "","";s10_$;"","';n1_$;';';n2_$;';';n3_$;';';
   n4_$;';';n5_$;';';n6_$
1620 STRIP 2: show_key: redit: END DEFine
1630 :
1640 DEFine PROCedure sWatch
1650 bop: AT 24,22: INK 2: PRINT Blank$; CHR$(188);
   CHR$(188); CHR$(188); Blank$(1 TO 5)
1660 AT 24,10: INK 7:
   INPUT'NEW Filename : ";Sname$
1670 IF Sname$="" THEN Show_DIF
1680 IF LEN(Snames)=0: Sname$="GADDRESS":
   BEEP 100,10
1690 IF LEN(Snames)>8: Sname$="GADDRESS":
   BEEP 2000,20: GO TO 1650
1700 Find$="NULL"
```

ZX-81 Video Display System - Part1

by Wilt Rigter

ZX-TEAM MAGAZIN

1. Introduction

When circumstances combine innovative technical ideas with an economical design and market opportunity, some interesting things begin to happen. In 1980, Clive Sinclair was not yet a household word and was perhaps better known for his digital watch and calculator than his ZX-80 personal computer. But Sinclair decided the time had come for an affordable and easy to use mass produced version of the ZX-80 with floating point math and a non-flicker display.

The ZX-81 was born and as they say "the rest is history".

A key to the economical design of the ZX-81 was the video system. Not only was it cheap to manufacture, but the ZX-81 video circuit turned out to be versatile with capabilities well beyond the designers original goals.

2. ZX-81 Display Basics

The standard ZX-81 video screen displays 24 rows of 32 characters. Every character has height of 8 scan lines and a width of 8 pixels. The characters to be displayed are located in a block of memory called DFILE. The set of 128 displayable characters includes 64 normal (white on black) uppercase only letters, numbers, symbols and graphics characters and their inverse (black on white). The ZX-81 character codes CHR$ 0-63, CHR$ 118 and CHR$ 128-191, are non-standard (not ASCII). A set of token codes is also used for keywords, functions and commands but these are always expanded to the displayable characters before printing to DFILE. The DFILE is formatted starting with the Sinclair equivalent of a Carriage Return (CHR$ 118) followed by up to 32 CHR$ codes, this repeated 24 times and ending with a CHR$ 118. CHR$ 118 is the opcode for the Z80 HALT instruction for reasons which will be explained later.

All other character codes are illegal and if loaded into DFILE will generally cause a system crash. The collapsed DFILE is used in the 1K and 2K basic ZX-81 to optimize screen memory requirements. When empty a collapsed DFILE consists of just 25 CHR$ 118 codes. Each line is expanded when characters are printed to that line. When equipped with 4K or more of memory, DFILE is initialized to the fully expanded format with 24 lines of 32 CHR$ 00 (space) characters and 25 CHR$ 118 line termination characters.

The character codes are not displayed directly but rather are used as address pointers to a ROM video pattern table. The ROM pattern bytes are addressed by a combination of the character code in DFILE and the ZX-81 hardware and is loaded into the video shift-register. Bit 7 of the character code is used by the video hardware to invert the pixels as they are shifted out of the shift-register. The display on the screen is generated by the serial bit stream of pixels, a video shift-register which turns the TV CRT electron beam on and off as it scans the phosphor coating on the inside face of the picture tube.

A fully expanded DFILE with 24 lines of 32 characters per row and 8 pattern bytes per character displays 6144 pattern bytes or 49152-pixels per screen.

3. SLOW Mode Video

In the SLOW mode, the CPU is multitasking between video and program execution. About 80% of the CPU time is allocated to video and keyboard service routines and only about 20% of CPU time is available to execute the application program. In fact, the CPU time is divided in four distinct task blocks per TV frame as shown in the table.

1. Tasks are switched using a Non Maskable Interrupt (NMI) generator to call an NMI service routine which controls task switching from the asynchronous application program to the real-time video routines.

1. VSYNC, frame count and keyboard	NMI off
2. Blank lines/application code	NMI on
3. VIDEO DISPLAY routine	NMI off
4. Blank lines/application code	NMI on

SLOW Mode CPU Task Table

Each task can be described in more detail as follows;

1. During the vertical sync interval, when no video is actually displayed, the CPU executes a fixed length VSYNC routine which increments a FRAME counter, reads 8 rows of keyboard data together with the 50/60Hz mode bit. Any I/O read operation with AO low (i.e. FE) addresses the ULA keyboard port. It also causes the ULA to start the vertical sync pulse by clamping the video output to the 0V sync level and simultaneously applies a

reset to the ULA 3-bit line counter (LCNTR). After the all the keyboard data is processed (400µs later), the CPU executes an OUT FF, A (any OUT will do) which restores the ULA video output to the normal "white level with horizontal sync pulses" and releases the LCNTR reset. At the end of the VSYNC routine, the number of blank lines to the start of the live display are determined from the system variable MARGIN (50/60Hz). Then the NMI generator is turned on and the CPU registers are switched back to the application task.

2. While the CPU executes the application code, the CPU is interrupted every 64µs by the NMI generator at the same time the ULA generates a horizontal sync pulse. The NMI routine increments a blank line counter in A' and returns if there is more time left for application code execution. When the blank line counter is incremented to zero, the NMI routine turns off the NMI generator and switches to the VIDEO DISPLAY routine through a pointer in the IX register.

3. The video display routine sets up the display file pointer, the row and line counters and enables INT and JP(HL), to the start of DFILE + 32K. Each character in the DFILE is interpreted as a NOP instruction except for the N/L character which terminates the line. At the end of each line, the INTservice routine updates the row and line counters and returns to execute the remaining lines. After 192 lines, the video display routine ends by turning on the NMI generator and the CPU switches back to execute the application code.

4. As before, during the top blank lines, the NMI routine counts the number of blank lines remaining. At the end of the bottom blank lines, the sequence repeats when the NMI service routine switches back to the VSYNC routine.

4. FAST Mode Video

In the ZX-80 comparable FAST mode, the CPU executes either the video routine or any other program but not both which causes the familiar flicker of the display when switching between these tasks. When the application program is running, it is executed using 100% of the available CPU time. Only if the application program is STOPped (in the command mode) or waiting for a keyboard INPUT, or in PAUSE mode is the video is displayed. The video hardware is activated in the same way as the SLOW mode but NMI is always off. In addition, the blank lines at the top and bottom of the screen are also generated in software making the ZX-81 ROM fully comparable with the ZX-80 hardware.

5. ZX-81 Video Hardware

The ZX-81 video hardware consists of the Z80 CPU, ROM, RAM and the larger part of the ZX-81 Sinclair Logic Chip (the ULA) as shown in Fig. 1 with all relevant connections including the isolation resistors R. For simplicity only the 2K RAM is shown. The ULA contains a 6.5 MHz crystal oscillator and a frequency divider which generates horizontal sync pulses at the video output and NMI pulses on the NMI output. The HSYNC . and the NMI outputs can be controlled with the following I/O operations.

1. OUT FD, A - turns off the NMI generator.
2. OUT FE, A - turns on the NMI generator.
3. IN A, FE - turns off the HSYNC generator. (only if NMI is off)
4. OUT FF, A - turns on the HSYNC generator.

The ULA video output switches between 3 voltage levels. It is normally at the +5V white level for blank lines. Characters patterns are displayed as black pixels when the level is +2.5V. The narrow horizontal sync pulses and wide vertical sync pulses are 0V level as shown in Fig. 1 waveform. These logic levels are reduced with a resistor divider to 1V, .5V and 0V (UK/US) at the input of the TV RF modulator.

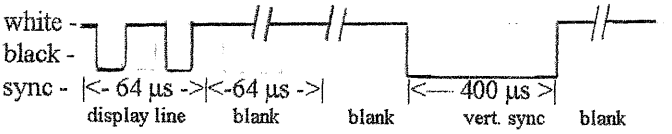


Fig.1 Video Levels

The HSYNG pulses are 5 µsec. wide with 64 µsec. between HSYNC pulses. The VSYNC is 400 µsec. wide with 16.6 msec. or 20 msec. between VSYNC pulses.

VSYNC is used to synchronize the TV vertical oscillator and start the raster scan at the top of the screen. This occurs when IN A, FE (used for scanning the keyboard) clamps the video output to the SYNC level. 400µsec. later OUT FF, A releases SYNC to enable the 64 µsec. HSYNC pulses. The HSYNC pulses continue to be generated independent of the CPU until the next VSYNC. The CPU executes the application code during the blank lines at the top and bottom of the screen while the NMI generator interrupts the CPU every 64 µsec. and increments a blank line counter to determine if it is time for the VIDEO DISPLAY of VSYNC routines.

6. ZX-81 Character Video Hardware

The Sinclair ZX-81 character display generator consists of the Z80, ROM, RAM and the larger part of the ZX-81 Sinclair Logic Chip (the ULA) as shown in Fig. 2 with all relevant connections including the isolation resistors R. For simplicity only the 2K RAM is shown.

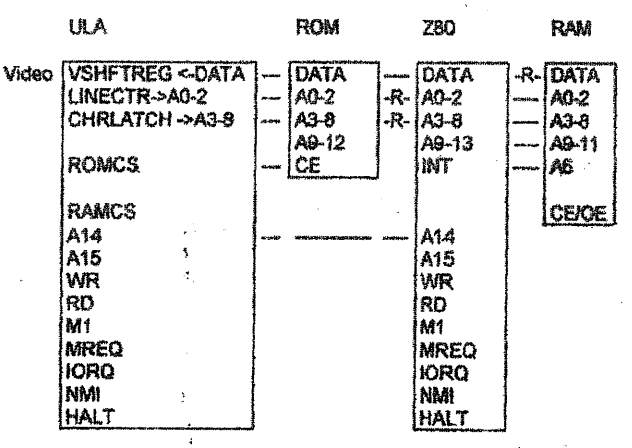


FIG 2 ZX81 CHARACTER VIDEO DISPLAY CIRCUIT

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ZQA! 1991 - 1996 Index

VOLUME 1	NUMBER 1	Spring 1991
SNUG is Dead! - Long Live T/SNUG		Bob Swoger
From The Chairman's Disk - SNUG!		Don Lambert
Oliger Proposes Détente With LarKen		Don Lambert
Stepping Rate Fix (Disk drives)		Bob Swoger & Larry Kenny

VOLUME 1	NUMBER 2	Summer 1991
INPUT/OUTPUT - Censorship, Mailing, N/L Exchange, Mile High, Bill Ferrebee		Bob Swoger
Reviews - QL Survivor's Source Book		Bob Dyl & Frank Davis
Reviews - International QL Report		Bob Dyl
T/SNUG, QUANTA, and PD-QL Software		Al Feng
Converted TS-1016 RAM That Works		Anthony Farrell
Cassette LOAD/SAVE Problems Solved I		Don Lambert
Solar System Review - Computers & Technologies		Joan Kealy

VOLUME 1	NUMBER 3	Fall 1991
INPUT/OUTPUT - Gill Parrish, Louis Eisen, Joan Kealy, Bill Ferrebee and Rod Humphreys		Bob Swoger
Reviews - 1 Meg Printer Buffer from Technologic Systems		Bob Swoger
How To Assemble or Replace TS-1000 Parts Cheap		Gill Parrish
Cassette LOAD/SAVE Problems Solved II		Don Lambert
QLUSTer_LITE		Al Feng

VOLUME 1	NUMBER 4	Winter 1992
INPUT/OUTPUT - G. Chambers, W. Harmer, R. Wisti, H. Scriven, B. Allen and R. Madaris		Bob Swoger
Cassette LOAD/SAVE Problems Solved III		Don Lambert
Clean Screen Please TS-2068		Bob Swoger
A Short History of The Z-88		Dave Bennett
Transfer MS-DOS Files to the TS-2068		George Chambers
QL Directory to Printer PDS DOC		Butch Wienberg
ZX-91 10 Years Later No.1 & No.2		André Baune

VOLUME 2	NUMBER 1	Spring 1992
INPUT/OUTPUT - W. Jackson, M. Kendoll, R. Shade, I. Zachev and J. Shepard		Bob Swoger
Cassette LOAD/SAVE Problems Solved IV		Don Lambert
An Updated ZX-81		Don Lambert
Bench Marking The ZX-81		Edward Snow
Driving Your Tax Threshold		Joan Kealy
TAX-I-QL TIP		Al Feng
ZX-91 10 Years Later No.3		André Baune

VOLUME 2	NUMBER 2	Summer 1992
Quanta-Gate?		Al Feng
INPUT/OUTPUT - Ken Krack, Glen Hufstedler, Francine Sklar, Charlie Fox , André Baune Don Lambert, Joseph Rampolla, Chuck Kereluck, Paul Anderson, David Leech and David Lebiwitz		Bob Swoger
Cassette LOAD/SAVE Problems Solved V		Don Lambert
Modem Time 1st MTERM II		Bob Swoger
Refining ZCOMM (MODEMing)		Joseph Rampolla
TS-2068 to Z-88 Transfer Via Modem		Dave Bennett
ZX-91 10 Years Later No.4		André Baune

VOLUME 2	NUMBER 3	Fall 1992
INPUT/OUTPUT - Ken Krack, Alvin Albrecht, Dave Bennett, Hugh Polley, Mort Binstock, James Caldwell, Bob Madaris, Gill Parrish, and Joseph Rampolla		Bob Swoger
BYTE-BACK MD-68 Modem		Bob Swoger

Mineral Oil & The Printer Ribbon	Abed Kahale
Mineral Oil & The Edge Connector	Bob Swoger
Resetting Track 0 on Disk Drives	Don Lambert
Writing More Efficiently	Bill Harmer
ZX-91 10 Years Later No.5	André Baune
New Commands Effective With JLO SAFE V2.6	John Oliger

VOLUME 2	NUMBER 4	Winter 1992
From The Editor's Desk - LogiCall 5.1		Bob Swoger
INPUT/OUTPUT - Marvin Johnson and Joseph Rampolla		Bob Swoger
50 TIPS (Programming for the 2068 & Spectrum)		Don Lambert

VOLUME 3	NUMBER 1	Spring 1993
INPUT/OUTPUT - Don Berry (Master Scribe), Thomas Simon and David Lassov		Bob Swoger
Compound Interest and Investing		Don Lambert
Changing a REM statement in ZX-81 BASIC		Bill Harmer
Use Some Hitching Bits as a Flagman		Bill Harmer

VOLUME 3	NUMBER 2	Summer 1993
SPDOS for RAMEX Mellina K (Disk drive)		Don Lambert
RecordKeeping		Abed Kahale
INPUT/OUTPUT - Help! - Terry Graham, Ed Radtke, Wayne Knaust.		Editor
Keep'em Coming - Greg Newkirk, Dan Elliott, Robert Madaris, Fred Henn, Alexander Sweitzer, William Hanes, Albert Syler, and Les Cottrell.		
QZX Index		Alex Burr
Disk Life		Ted Jensen
Disk Life		Edward Snow

VOLUME 3	NUMBER 3	Fall 1993
From The Chairman's Desk - Spectrum AUTOSTART		Don Lambert
Re-Inking, Ribbon Resuscitation		John Wase
Keep'em Coming - Jeffrey Kuhlmann, Daniel Chattin, Dane Stegman and Louis Simon		Editor
Inexpensive Z-88 Parallel to Serial Converter		Jay Shepard III
Did You Know? (LarKen Tips)		Les Cottrell
Tasman 'B' Printer Interface (CPI)		R. Swoger & L. Kenny
Index Highlights - Articles		Editor
Public Domain Library Listings		Editor

VOLUME 3	NUMBER 4	Winter 1993
INPUT/OUTPUT - Help - Jack Payne, William Horner, TV & Monitors, Gilliam Parrish		Editor
Keep'em Coming - David Lassov, Francine Sklar, Greg Simmons, Quentin Kent.		Editor
MEMOTECH MEMOPAK 64K		MEMOTECH
TS-2068 Talks to a PC by Modem		Abed Kahale
QL Hardware Project - Monitors		Bob Gilder
Tandy CM-11 Monitor		William Horner
MSDOS to LarKen & MSCRIPT		Les Cottrell
D.U.S. Disk Utility Software		Don Lambert
Turbo Switch for the ZX-81		Tony Willing
Using 16K MEMOTECH MEMOPAK		Don Lambert
Public Domain Library Update		Editor

VOLUME 4	NUMBER 1	Spring 1994
INPUT/OUTPUT - David Lassov, Leon Howell, D. H. Williamson, Gene Ray, D. G. Smith,		Editor
Wayne Knaust, Richard Jelen, Robert Shade, Gilliam Parrish, Rod Gowen, SUGWNY		Bob Swoger
Oliger Utilities		Don Lambert
QL Date Gate! - DBEASY - News You Can Use		Al Feng
LogiCall Review		Abed Kahale

TS-2068 - CMOS On Board	Richard Jelen
Ni-Cad Charger	Richard Jelen
TIMACHINE and the FDD	James Brezina
QL Video Output Circuit	Richard Jelen
QL Woes	Nazir Pashtoon
Moving Ramtop in ZX-81 TS-1000	Anthony Oresteen
ZX-81 POKEs and Calls	Anthony Oresteen
Frustrated PC Users Flood the Help Lines	Joan Kealy
D.U.S. Cheat Sheet	Abed Kahale
Why the Oliger Disk I/F with JLO SAFE is the Best for Your TS-2068	John Oliger
CW Decoder Circuit	Bob Swoger

VOLUME 4	NUMBER 2	Summer 1994
INPUT/OUTPUT - Richard Jelen, Edward Snow, Robert Gilbert, Gene Ray, Robert Barnett, Robert Hartung, Rod Gowen, David Lassov		Editor
LarKen Disk Interface Circuit		Les Cottrell
QLuMSi v.4.30		Al Feng
QLUSTer Upgrade		Al Feng
Relocating Machine Code - TS-2068		James Brezina
PARTS Inventory		Richard Jelen
Did You Try This?		David Lassov
SNUG Notice		Abed Kahale
T/SNUG QL Public Domain Library		Paul Holmgren

VOLUME 4	NUMBER 3	Fall 1994
INPUT/OUTPUT - Wes Brzozowski, Edwin Phillips, Arthur Binstock, Robert Shade, SNUG		Editor
Smith's Chart		Edwin Phillips
Computus Interruptus - 1		Wes Brzozowski
Batteries for the Z88		Don Lambert
Adjust DATABASE Please		Al Feng
Information SuperHighway - Modems		Abed Kahale
Complex ASCII Rotation		Tim Swenson
Z-SI/O RS-232 Serial Interface		Abed Kahale
To PRINT or not to LPRINT		Jim Brezina

VOLUME 4	NUMBER 4	Winter 1994
INPUT/OUTPUT - Bob Dyl, David Lassov, Dave Bennett,Wes Brzozowski, Thomas Simon, Rod Gowen, NESQLUG, SNUG, Walter Mossberg		Editor
1994 UPDATE!		Frank Davis
A Surprise Box of Tricks - Z88		Hugh Howie
Z88 and its Power of Recovery		Hugh Howie
JLO with LKDOS Cartridge		Bob Swoger
SINCLAIR Rides the INTERNET		John Pazmino
Christmas Return Labels		Bob Swoger
Daisy Be Good - 1		David Lassov
Windows by Shade - 1		Robert Shade
Z88 Batteries		Mort Binstock
ZQA! 1991-94 Index to Articles		Editor

VOLUME 5	NUMBER 1	Spring 1995
INPUT/OUTPUT - Carlos Delhez, Robert Gilbert, Larry Crawford, Rod Gowen, Fred Henn, Greg Bridgewater, SNUG News, William Krossner.		Editor
Zebra FDD		Donald Lambert
Windows by Shade		Robert Shade
QL Hacker's Journal		Tim Swenson
QXL Notes		Al Feng
Z88 - My Memory Surprise		Hugh Howie

Z88 - Power to You	Hugh Howie
Computus Interruputs 2	Wes Brzozowski
TS Bulletin & BASIC N-L	William Harmer
Daisy Be Good II	David Lassov

VOLUME 5	NUMBER 2	Summer 1995
INPUT/OUTPUT - Les Cottrell, Tim Swenson, Robert Gilbert, Francine Sklar, Harry Miller, David Lassov, Joan Kealy, Wire guage, Bill Cable, Gilliam Parrish, Ferdinand Gunther, Carl Jones, David Lassov.		Editor
CAI/ESF Stringy Floppy		Donald Lambert
A Word to the Wise		Tim Swenson
Memories Mean a Lot		Abed Kahale
QXL Notes - Sequel		Al Feng
MDIR_BAS v1.05 MDIR_C		Al Feng
Lil'Amp Rides Again		Les Cottrell
Ql Corner		Bob Gilder
The Musical PC8300		Gilliam Parrish
QLuMSi -Recent Changes		Al Feng
Daisy Be Good III		David Lassov
Waging in the TSRoom		Donald Lambert
QL Hacker's Journal		Tim Swenson

VOLUME 5	NUMBER 3	Autumn 1995
INPUT/OUTPUT - Editor, Robert Hartung, Paul Robinson, Alvin Albrecht, William Harmer, Donald Lambert, M. Binstock, Fred Henn, Martin van der Zwan, Leo Moll, Jack Dohany.		Editor
ZEUS Assembler		Alvin Albrecht
Towers of Hanoi		Alvin Albrecht
Digitizing & Sythesizing the 2068 Sound		Alvin Albrecht
TTSUC		Robert Swoger
Daisy Be Good IV		David Lassov
QL Hacker's Journal		Tim Swenson
Some Are QXL Notes		Al Feng
Windows by Shade 3		Robert Shade

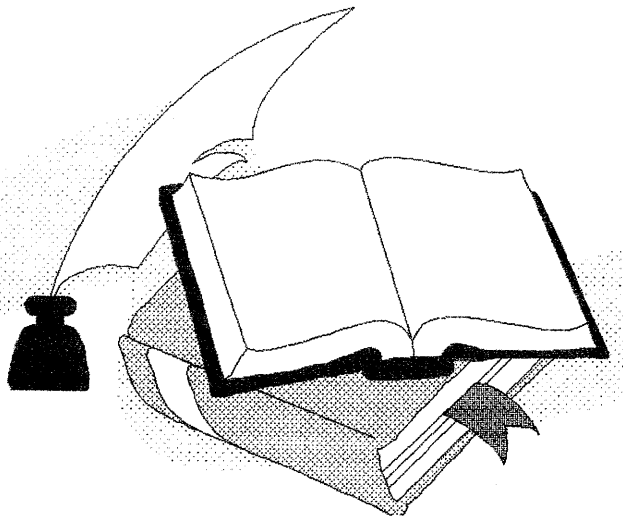
VOLUME 5	NUMBER 4	Winter 1995/6
INPUT/OUTPUT - ZX-TEAM Peter Liebert-Adelt, Fred Henn, Jose Moreno, David Lassov, Kimmy Posey, Simeon Dwyer, Justin Clark, Les Cottrell, ZX81 LCD Screen.		Editor
Better Late than Never		Abed Kahale
PC Power Supply for your QL		Al Feng
QXL Totes		Al Feng
Daisy Be Good V		David Lassov
QHJ FreeWare		Tim Swenson
IBM Keyboard Interface for 1000/2068		Jack Dohany
50 Something		Abed Kahale

VOLUME 6	NUMBER 1	Spring 1996
INPUT/OUTPUT - International ZX-81 Magazine, Hugh Scriven, Peter Liebert-Adelt, Gil Parrish, David Lassov, Frank Davis, Jaime Cruz-Figueroa, ZX-Team Magazine, QL Public Domain Library - Steve Johnson, Jose Moreno, TTSUC Library - George Chamber, Jack Dohany - IKI keyboard, Les Cottrell, Francine Sklar, SCC BBS.		Editor
IKI Keyboard Interface (ZX-81, 2068)		Jack Dohany
ZX-81 Hi-Res?		Tim Swenson- Internet
UDG's ZX-81		Tim Swenson- Internet
DBEasy - 1.6 Review (QL)		Al Feng
Improving Sector_COPYing Program (QL)		Al Feng
Daisy Be Good - VI (2068)		David Lassov

VOLUME 6	NUMBER 2	Summer 1996
INPUT/OUTPUT - David Johnson, Kenneth Harbit, Peter Liebert-Adelt, SJPD, GATOR, UPDATE!, Jose Moreno SCC BBS, Joan Kealy, Ken Harbit, John Shepard,		Editor
Expand the ZX-81 Memory to 32K		ZX-TEAM MAGAZIN
DBEasy's EASY_OUT Custom (QL)		Al Feng
Windows by Shade - IV (2068)		Robert Shade
Errata - Sector_COPYing (QL)		Editor
QL Hacker's Journal (QL)		Tim Swenson
Telecommunication (2068)		David Lassov
Daisy Be Good - VII (2068)		David Lassov
The Web WWW		Abed Kahale

VOLUME 6	NUMBER 3	Autumn 1996
INPUT/OUTPUT - David Lassov, Keith Watson, Jon Kaczor, Frank davis, John Pegram, Al Feng, Joan Kealy, Gil Parrish, GATOR, Internet virus, Hennig Raader, ZX-81 Hi-Res, Jeff Taylor, Jose Moreno SCC BBS.		Editor
To Frank & Carol Davis		GATOR
Disk Doctor (2068)		George Chamber
QMOSAIC Chronicles (QL)		Al Feng
LogiCall Logic (2068)		GATOR
QL Hacker's Journal (QL)		Tim Swenson
Few Useful Z88 CLI Routines		Dave Bennett
AT Keyboard Interface ZX-81		Kai Fischer
Windows by Shade - V (2068)		Robert Shade
Daisy Be Good VIII (2068)		David Lassov
Surfing-the-Net with Sinclair		RAMTOP
TTSUC LarKen Disk Library		Editor

VOLUME 6	NUMBER 4	Winter 1996
INPUT/OUTPUT - RMG - Rod Gowen, ATA Tursucu, Hugh Howie, Les Cottrell, GATOR, Tim Swenson, David Lassov, Steve Johnson, Donald Lambert, Jochen Merz, Phillip Kwitkowski, Abed Kahale, Frank Davis.		Editor
Meet Phillip Kwitkowski		Bob Swoger
How to be Chic		Gil Parrish
QXL Ghosts		Al Feng
Daisy be Good - IX		David Lassov
Disk Drive Dress-Up		Les Cottrell
Telcommunication a la TS-2068		David Lassov
SeekQL 2.09 - Part 1		Al Feng
ZX-81 Video Display System - Part 1		Wilt Rigter



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